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By

(10) Gary G. BOYCAN

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The information presented in this report was developed during a major research effort to outline the training methods and materials for personnel who would operate and maintain a new Army tank, MBT-70. This report provides: (1) the functional procedures required for crew operation and maintenace of the MBT-70, and (2) guidelines for deriving a human performance requirements data base for further training research. The procedures were derived from an analysis of the MBT Mission Defintion, Mission Narrative and Service Test Proposal.

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US/FRG MBT 70 CREW FUNCTIONAL PROCEDURES AND PERFORMANCE STANDARDS

By

G. G. Boycan

January 1968

WORK UNIT MBT: WORK SUB-UNIT II, "DEVELOPMENT OF TRAINING PROGRAM"

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FOREWORD

The objective of Work Unit MBT is to outline the training methods and prescribe training materials that will be required by the personnel responsible for the development of programs for operator training and user maintenance training on the US/FRG Main Battle Tank.

This report provides: (1) the functional procedures required for crew operation and maintenance of the MBT-70 and (2) the guidelines for deriving a human performance requirements data base for futher training research. The procedures were obtained by analysis of the MBT Mission Definition, Mission Narrative, and Service Test Proposal

This report contains partial information on Human Performance Requirements and provides the working papers for recording the remaining human performance requirements for MBT-70. It is anticipated that System Standards can be obtained from available documents (e.g., Qualitative Materiel Requirements, Joint Military Characteristics, equipment test plans, etc.) and from the MBT Engineering Test; for which this paper also provides a planning guide. By analysis, performance standards can then be derived, probable training problems identified and necessary training research programmed for conduct during the equipment Service Test.

Work Unit MBT is conducted by HumRRO Division No. 2 (Armor) at Fort Knox, Kentucky. The Director of Research is Dr. Norman Willard, Jr. The Work Unit leader is Dr. Donald F. Haggard. The Work Unit Staff consists of Mr. G. Gary Boycan, Mr. William C. Osborn, Mr. Ralph W. Graham and Mr. Ronald E. Kraemer. The military research assistant is Sp-4 Louis C. Pierce, Jr.

Military support for the Work Unit is provided by the U.S. Army Armor Center and its tenant commands and by the U.S. Army Armor Human Research Unit. The Military Chief of the HRU is Lt. Colonel William Q. Harty.

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Meredith P. Crawford
Director
Human Resources Research Office

TABLE OF CONTENTS

INTRODUCTION vii

MISSION PREPARATION

1.0 Checking Engine Compartment and Vehicle Exterior 3
2.0 Checking Communications Equipment 9
3.0 Checking Station Lamps and Sighting Equipment 13
4.0 Checking Operation of Fire Control System 21
5.0 Loading Supplies 29
6.0 Programming Navigation Unit 33

MOVEMENT

7.0 Establishing Vehicle Mode (Administrative March) 39
8.0 Establishing Vehicle Mode (Combat March) 45
9.0 Establishing Vehicle Mode (Before Water Operation) 51
10.0 Establishing Vehicle Mode (After Water Operation) 55
11.0 Driving the Vehicle From Driver Station 59
12.0 Driving the Vehicle From Commander Station 63
13.0 Driving the Vehicle (Emergency Mode) 67
14.0 Monitoring Systems 71
15.0 Regulating Vehicle Environment 75
16.0 Escaping From Vehicle 79
17.0 Extinquishing Vehicle Fire 85

SURVEILLANCE

18.0 Establishing Open Hatch Surveillance 91
19.0 Establishing Closed Hatch Surveillance 95
20.0 Establishing Silent Watch Surveillance 99

TARGET ENGAGEMENT

21.0 Preparing Range Card Data 105
22.0 Illuminating Targets 109
23.0 Firing Main Weapon From Gunner Station 113
24.0 Firing Main Weapon From Commander Station 119
25.0 Firing Main Weapon (Emergency Mode) 123
26.0 Firing Coaxial M.G. From Gunner Station 127

27.0 Firing Coaxial M.G. From Commander Station..... 131
28.0 Firing Secondary Weapon From Gunner Station..... 135
29.0 Firing Secondary Weapon From Commander Station..... 139
30.0 Adjusting Weapon Fire..... 143
31.0 Firing Grenade Launchers..... 147

MISSION COMPLETION

32.0 Checking Engine Compartment and Vehicle Exterior..... 151
33.0 Checking Suspension System..... 155
*34.0 Checking OEM..... 159
35.0 Checking Communications Equipment..... 161
36.0 Checking Station Lamps and Sighting Equipment..... 163
37.0 Checking Operation of Fire Control System..... 167
*38.0 Maintaining Main Weapon..... 173
*39.0 Maintaining Secondary Weapon..... 175
*40.0 Maintaining Coaxial Machine Gun..... 177
*41.0 Maintaining Suspension System..... 179
*42.0 Maintaining Engine..... 181
*43.0 Maintaining EC/LSS Unit..... 183
*44.0 Maintaining Driver TV Camera..... 185
*45.0 Maintaining Searchlight..... 187
*46.0 Maintaining Sighting Equipment..... 189
*47.0 Maintaining Navigation Unit..... 191
*48.0 Boresighting Weapons..... 193
*49.0 Zeroing Weapons..... 195
*50.0 Troubleshooting Fire Control System..... 197

REFERENCES..... 199

*Flow diagram not provided.

INTRODUCTION

In this report, equipment oriented crew tasks for MBT-70 are combined into functional procedures. For each procedure a flow diagram is provided which illustrates the sequence among tasks involved in the procedure and the interaction among crew members at the task level. Also, there are data sheets for each identified performance unit (procedures and tasks), to provide for the collation of additional information which will be needed in specifying MBT-70 crew performance requirements. This additional information falls into one of the following categories:

System Variables:	Tactical and environmental conditions, i.e., ambient light and target range, which affect total system performance (equipment plus human performance).
System Standards:	Level of system performance required in terms of time (T), accuracy (A), and reliability (R).
Tools:	Equipment to be used in accomplishing the required human performance
Information:	Initiating cues, references, assistance, etc., to be used in accomplishing the required human performance.
Performance Variables:	Tactical and environmental conditions which affect human performance.
Performance Standard:	Level of human performance required in terms of time (T), rate of response (RR), sequence accuracy (SEA), solution accuracy (SOA), and consistency (C).

Each flow diagram consists of boxes, each of which contains a task statement, reference numbers, and a letter designating the crew member responsible for the task. Reference numbers refer to the task descriptions prepared by General Motors Corporation (1, 2 and 3, page 199).

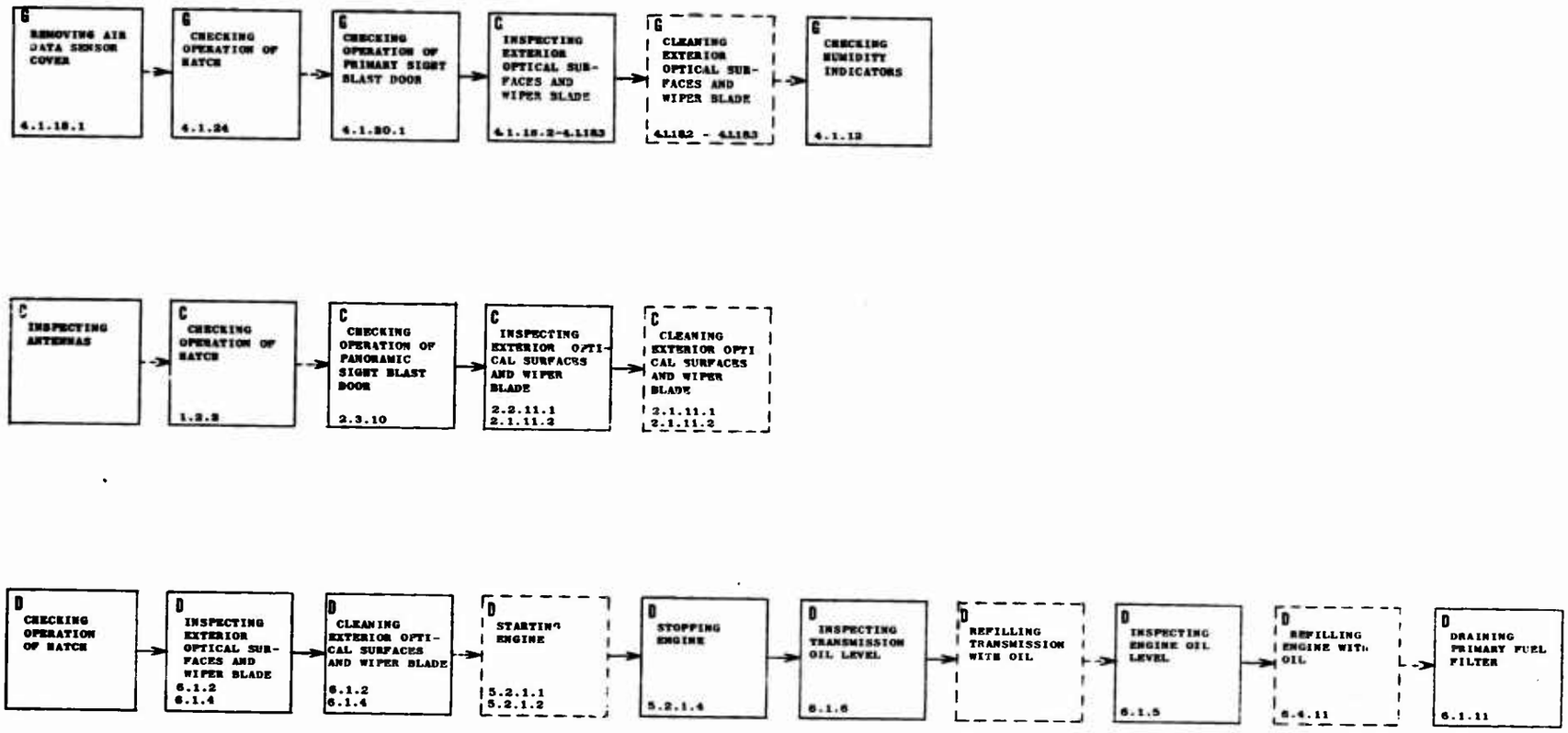
Symbols used in the flow diagrams include:

	Task is always performed as part of the procedure.
	Task is frequently performed as part of the procedure.
	Task in the source box is a prerequisite to one or more remaining tasks in the sequence.
	Task in the source box is not a prerequisite to remaining tasks in the sequence.
	and
	or
	and or
	Interaction between crew members.

MISSION PREPARATION

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
1 0	CGD	CHECKING ENGINE COMPARTMENT AND VEHICLE EXTERIOR												

CHECKING ENGINE COMPARTMENT AND VEHICLE EXTERIOR



NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
1.1	CGD	TASKS ALWAYS PERFORMED												
	C	Inspecting Antennas												
	C	Checking Operation of Hatch (1.2.2)												
	C	Checking Operation of Panoramic Sight Blast Door (2.3.10)												
	C	Inspecting Exterior Optical Surfaces and Wiper Blade (2.1.11.1 - 2.1.11.2)												
	G	Removing Air Data Sensor Cover (4.1.18.1)												
	G	Checking Operation of Hatch (4.1.24)												
	G	Checking Operation of Primary Sight Blast Door (4.1.20.1)												

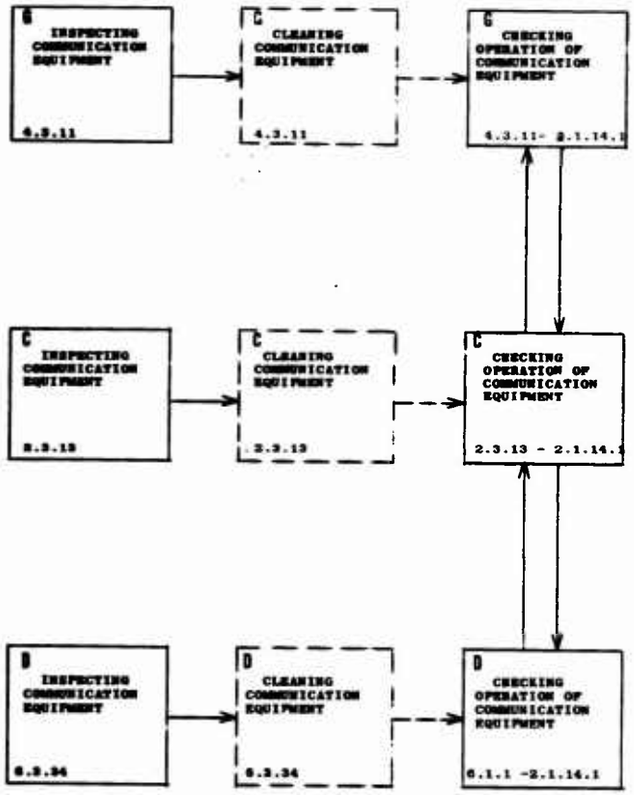
NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	G	Inspecting Exterior Optical Surfaces and Wiper Blade (4.1.18.2 - 4.1.18.3)												
	G	Checking Humidity Indicators (4.1.12)												
	D	Checking Operation of Hatch												
	D	Inspecting Exterior Optical Surfaces and Wiper Blade (6.1.2 - 6.1.4)												
	D	Starting Engine (5.2.1.1 - 5.2.1.2)												
	D	Stopping Engine (5.2.1.4)												
	D	Inspecting Transmission Oil Level (6.1.6)												
	D	Inspecting Engine Oil Level (6.1.5)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	D	Draining Primary Fuel Filter (6.1.11)												
1.2	CGD	TASKS FREQUENTLY PERFORMED												
	C	Cleaning Exterior Optical Surfaces and Wiper Blade (2.1.11.1 - 2.1.11.2)												
	G	Cleaning Exterior Optical Surfaces and Wiper Blade (4.1.18.2 - 4.1.18.3)												
	D	Cleaning Exterior Optical Surfaces and Wiper Blade (6.1.2 - 6.1.4)												
	D	Refilling Transmission with Oil												
	D	Refilling Engine with Oil (6.4.11)												
1.3	CGD	TASKS SELDOM PERFORMED												
	C	Replacing Panoramic Sight Wiper Blade (2.4.9) F-2.1.11.2												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	G	Replacing Primary Sight Wiper Blade (4.4.15) F-4.1.18.3												
	D	Replacing Driver Periscope Wiper Blade												
	D	Starting Engine by Slaving (5.11.2) R-5.2.1.1 - 5.2.1.2												
	D	Starting Engine by Towing (5.11.1) R-5.2.1.1. - 5.2.1.2												
	D	Checking Bilge Pump												
	G	Inspecting Batteries												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
2.0	CGD	CHECKING COMMUNICATION EQUIPMENT												

CHECKING COMMUNICATION EQUIPMENT

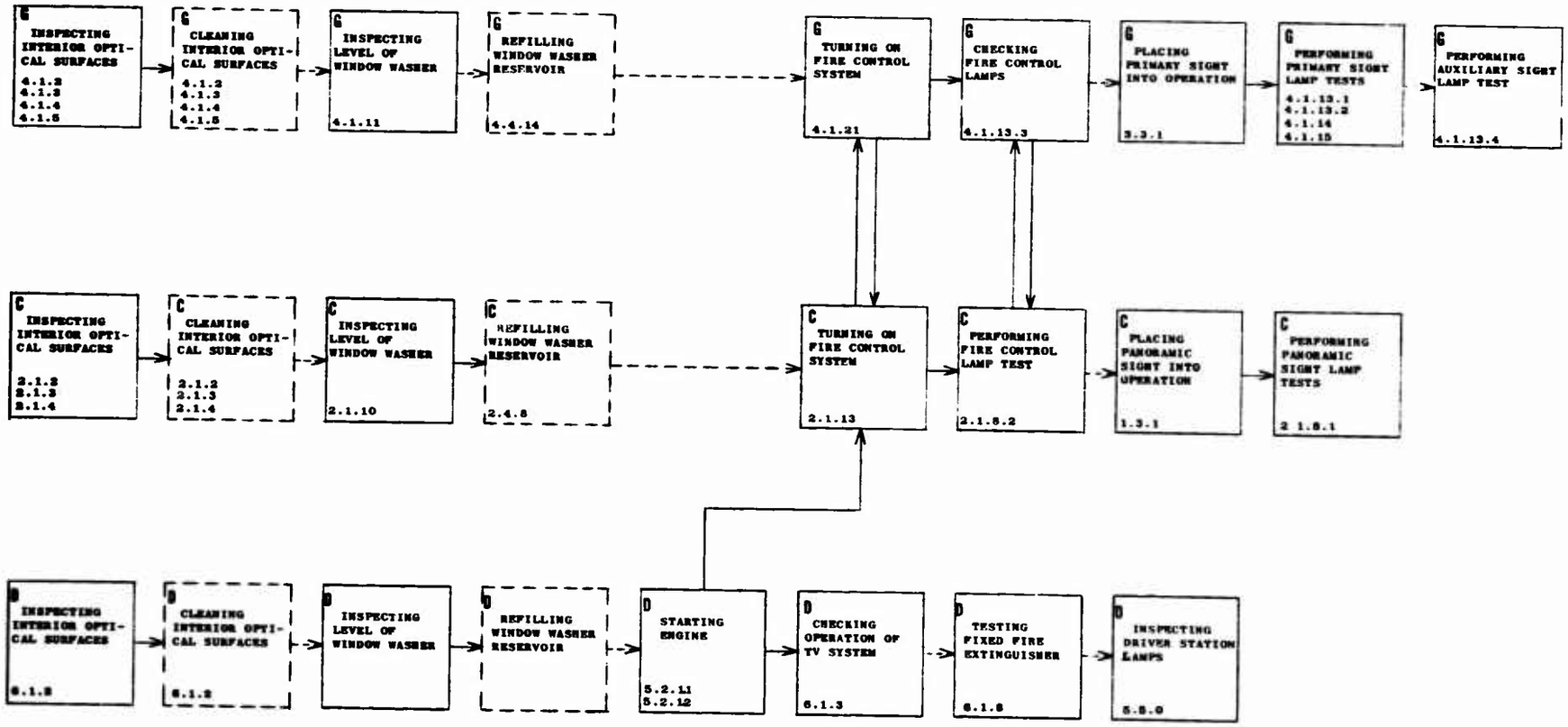


NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
2.1	CGD	TASKS ALWAYS PERFORMED												
	C	Inspecting Communication Equipment (2.3.13)												
	C	Checking Operation of Communication Equipment (2.3.13 - 2.1.14.1)												
	G	Inspecting Communication Equipment (2.3.13)												
	G	Checking Operation of Communication Equipment (2.3.13 - 2.1.14.1)												
	D	Inspecting Communication Equipment (6.3.34)												
	D	Checking Operation of Communication Equipment (6.1.1. - 2.1.14.1)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
2.2	CGD	TASKS FREQUENTLY PERFORMED												
	C	Cleaning Communication Equipment (2.3.13)												
	G	Cleaning Communication Equipment (4.3.11)												
	D	Cleaning Communication Equipment (6.3.34)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
3.0	CGD	CHECKING STATION LAMPS AND SIGHTING EQUIPMENT												

CHECKING STATION LAMPS AND SIGHTING EQUIPMENT



NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
3.1	CGD	TASKS ALWAYS PERFORMED												
	C	Inspecting Interior Optical Surfaces (2.1.2 - 2.1.3 - 2.1.4)												
	C	Inspecting Level of Window Washer Reservoir (2.1.10)												
	C	Turning on Fire Control System (2.1.13)												
	C	Performing Fire Control Lamp Test (2.1.8.2)												
	C	Placing Panoramic Sight Into Operation (1.3.1)												
	C	Performing Panoramic Sight Lamp Tests (2.1.8.1)												
	G	Inspecting Interior Optical Surfaces (4.1.2 - 4.1.3 - 4.1.4 - 4.1.5)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	G	Inspecting Level of Window Washer Reservoir (4.1.11)												
	G	Turning On Fire Control System (4.1.21)												
	G	Checking Fire Control Lamps (4.1.13.3)												
	G	Placing Primary Sight Into Operation (3.3.1)												
	G	Performing Primary Sight Lamp Tests (4.1.13.1 - 4.1.13.2 - 4.1.14 - 4.1.15)												
	G	Performing Auxiliary Sight Lamp Test (4.1.13.4)												
	D	Inspecting Interior Optical Surfaces (6.1.2)												

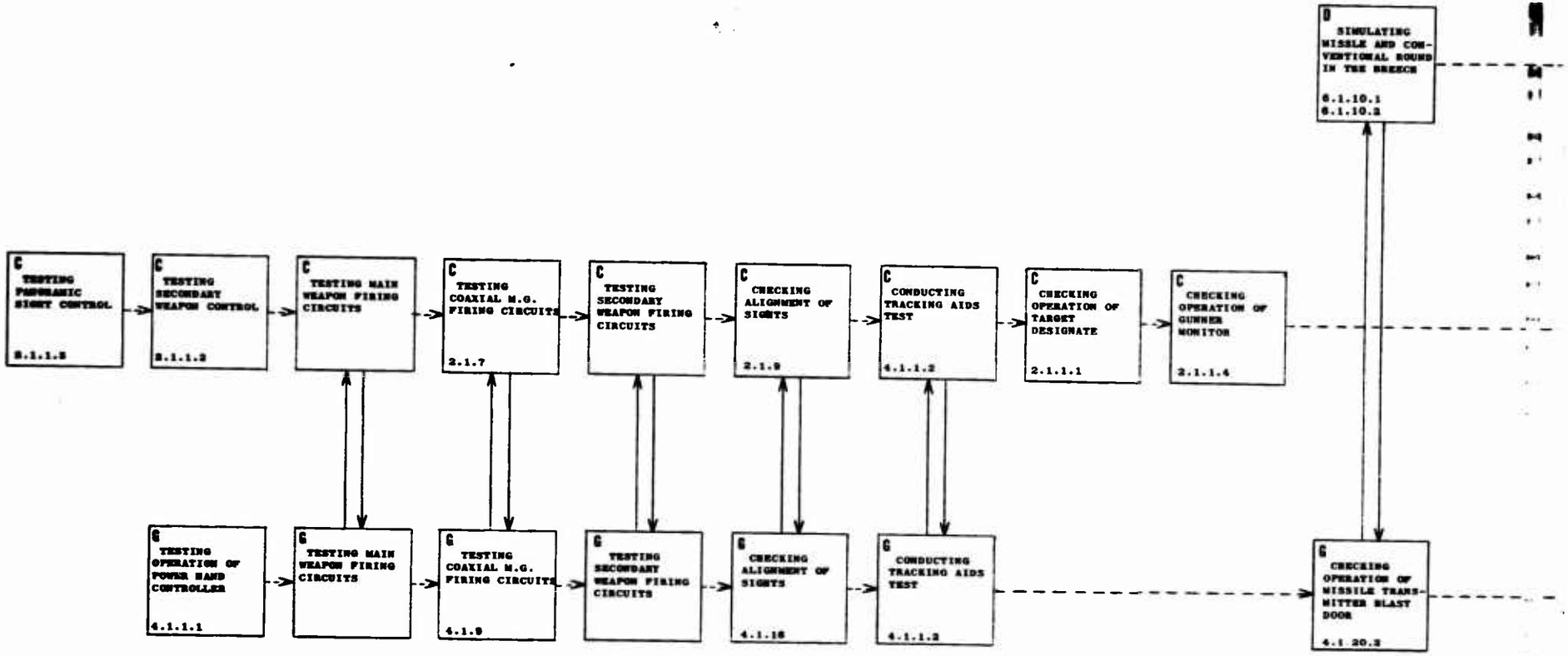
NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	D	Inspecting Level of Window Washer Reservoir												
	D	Starting Engine (5.2.1.1. - 5.2.1.2)												
	D	Checking Operation of TV System (6.1.3)												
	D	Testing Fixed Fire Extinguisher (6.1.8)												
	D	Inspecting Driver Station Lamps (5.5.0)												
3.2	CGD	TASKS FREQUENTLY PERFORMED												
	C	Cleaning Interior Optical Surfaces (2.1.2 - 2.1.3 - 2.1.4)												
	C	Refilling Window Washer Reservoir (2.4.8)												
	G	Cleaning Interior Optical Surfaces (4.1.2 - 4.1.3 - 4.1.4 - 4.1.5)												
	G	Refilling Window Washer Reservoir (4.4.14)												

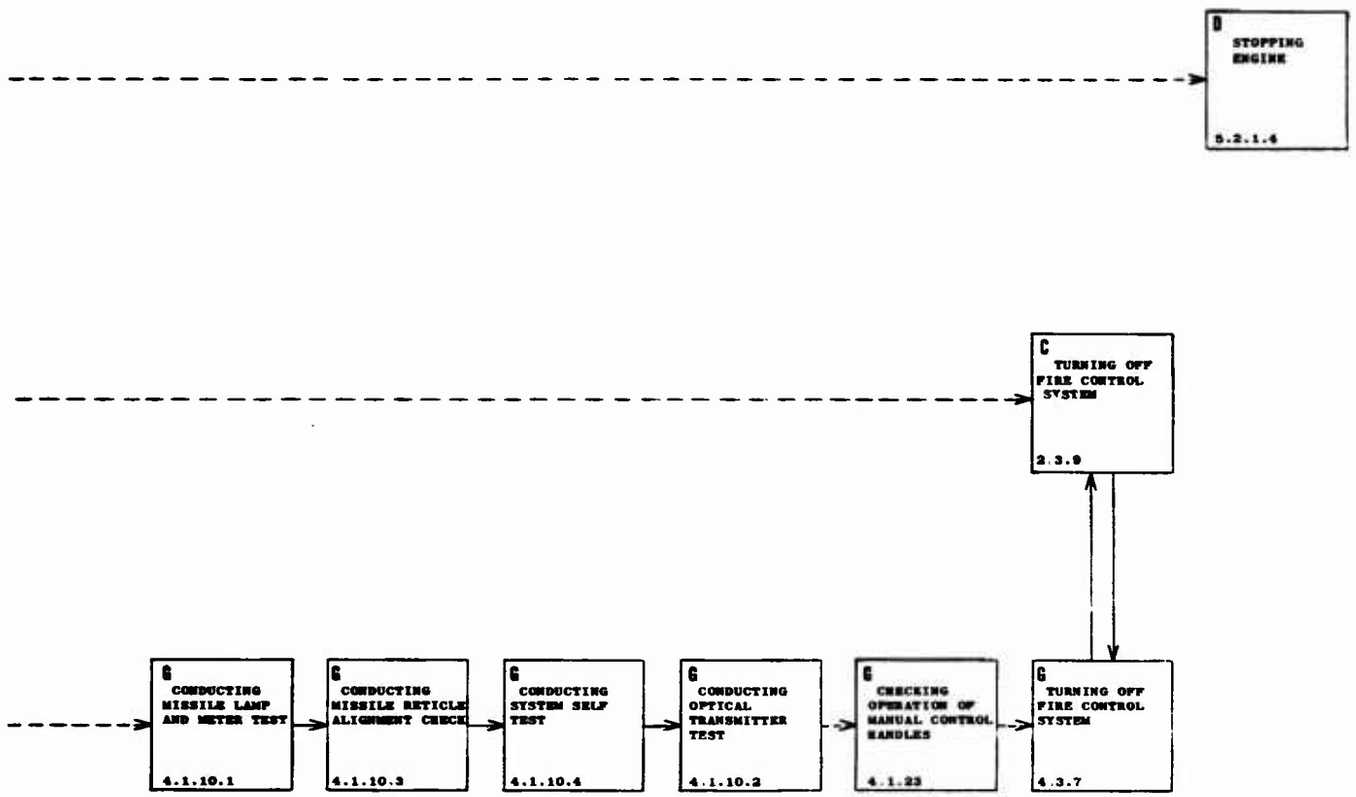
NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	D	Cleaning Interior Optical Surfaces (6.1.2)												
	D	Refilling Window Washer Reservoir												
3.3	CG	TASKS SELDOM PERFORMED												
	C	Replacing Fire Control Lamps (2.4.6.1) F-2.1.8.2												
	C	Replacing Ammunition Counters (2.4.6.2) F-2.1.8.2												
	C	Replacing Panoramic Sight Stadia and Ready to Fire Lamps (2.4.6.3) F-2.1.8.1												
	C	Replacing Panoramic Sight Reticle Lamp (2.4.6.4) F-2.1.8.1												
	G	Replacing Hertz Power Supply, Weapon and Range Control Lamps (4.4.5) F-4.1.13.3												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	G	Replacing Zoom Telescope and Primary Sight Ready to Fire Lamps (4.4.5.4) F-4.1.13.1 - 4.1.13.2												
	G	Replacing Primary Sight Checksight Lamp (4.4.5.5) F-4.1.14 - 4.1.15												
	G	Replacing Auxiliary Sight Lamps (4.4.5.6) F-4.1.13.4												
	D	Replacing Warning Lamps (6.4.25 - 6.4.26) F-5.5.0												
	D	Replacing Indicator Lamps (6.4.29 - 6.4.30) F-5.5.0												
	D	Replacing Dome Light (6.4.31 - 6.4.32) F-5.5.0												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
4.0	CGD	CHECKING OPERATION OF FIRE CONTROL SYSTEM												

CHECKING OPERATION OF FIRE CONTROL SYSTEM




D
STOPPING ENGINE
5.2.1.4
C
TURNING OFF FIRE CONTROL SYSTEM
2.3.9
G
CONDUCTING MISSILE LAMP AND METER TEST
4.1.10.1
G
CONDUCTING MISSILE RETICLE ALIGNMENT CHECK
4.1.10.3
G
CONDUCTING SYSTEM SELF TEST
4.1.10.4
G
CONDUCTING OPTICAL TRANSMITTER TEST
4.1.10.2
G
CHECKING OPERATION OF MANUAL CONTROL HANDLES
4.1.23
G
TURNING OFF FIRE CONTROL SYSTEM
4.3.7

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
4.1	CGD	TASKS ALWAYS PERFORMED												
	C	Testing Panoramic Sight Control (2.1.1.3)												
	C	Testing Secondary Weapon Control (2.1.1.2)												
	C	Testing Main Weapon Firing Circuits												
	C	Testing Coaxial M.G. Firing Circuits (2.1.7)												
	C	Testing Secondary Weapon Firing Circuits												
	C	Checking Alignment of Sights (2.1.9)												
	C	Conducting Tracking Aids Test (4.1.1.2)												

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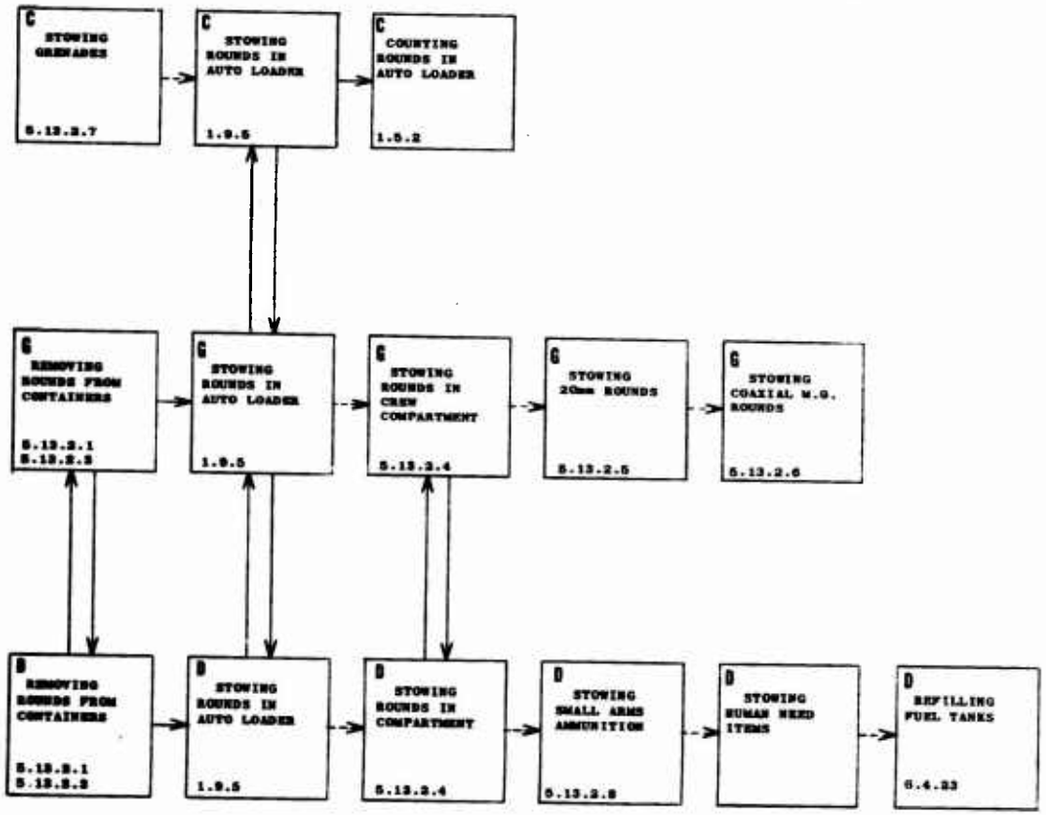
NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SQA	C
	C	Checking Operation of Target Designate (2.1.1.1)												
	C	Checking Operation of Gunner Monitor (2.1.1.4)												
	C	Turning Off Fire Control System (2.3.9)												
	G	Testing Operation of Power Hand Controller (4.1.1.1)												
	G	Testing Main Weapon Firing Circuits (4.1.9)												
	G	Testing Coaxial M.G. Firing Circuits												
	G	Testing Secondary Weapon Firing Circuits												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	G	Checking Alignment of Sights (4.1.16)												
	G	Conducting Tracking Aids Test (4.1.1.2)												
	G	Checking Operation of Missile Transmitter Blast Door (4.1.20.2)												
	G	Conducting Missile Lamp and Meter Test (4.1.10.1)												
	G	Conducting Missile Reticle Alignment Check (4.1.10.3)												
	G	Conducting System Self Test (4.1.10.4)												
	G	Conducting Optical Transmitter Test (4.1.10.2)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	G	Testing Operation of Manual Control Handles (4.1.23)												
	G	Turning Off Fire Control System (4.3.7)												
	D	Simulating Missile and Conventional Round in the Breech (6.1.10.1 - 6.1.10.2)												
	D	Stopping Engine (5.2.1.4)												
4.3	G	<u>TASKS SELDOM PERFORMED</u>												
	G	Replacing Missile Test Checkout Panel Indicator Lamps (4.4.5.7) F-4.1.10.4												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
5.0	CGD	LOADING SUPPLIES												

LOADING SUPPLIES



NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
5.1	CGD	TASKS ALWAYS PERFORMED												
	C	Stowing Grenades (5.13.2.7)												
	CGD	Stowing Rounds in the Autoloader (1.9.5)												
	C	Counting Rounds in the Autoloader (1.5.2)												
	G	Removing Rounds from Containers (5.13.2.1 - 5.13.2.3)												
	GD	Stowing Rounds in Crew Compartment (5.13.2.4)												
	G	Stowing 20mm Rounds (5.13.2.5)												
	G	Stowing Coaxial M.G. Rounds (5.13.2.6)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	D	Removing Rounds from Containers (5.13.2.1 - 5.13.2.3)												
	D	Stowing Small Arms Ammunition (5.13.2.8)												
	D	Stowing Human Need Items												
	D	Refilling Fuel Tanks (6.4.23 - 6.4.24)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
6.0	C	PROGRAMMING THE NAVIGATION UNIT												

PROGRAMMING THE NAVIGATION UNIT

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
6.1	C	TASKS ALWAYS PERFORMED												
	C	Activating and Aligning Navigation System (1.1.1 - 1.1.2)												
	C	Setting Valves Into Navigation Unit (1.1.3)												
	C	Setting in Terrain Corrections (1.1.4)												
	C	Determining Present Heading (1.1.7)												
	C	Determining Present Position (1.1.5)												

MOVEMENT

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NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
7.0	CGD	ESTABLISHING VEHICLE MODE (Administrative March)												

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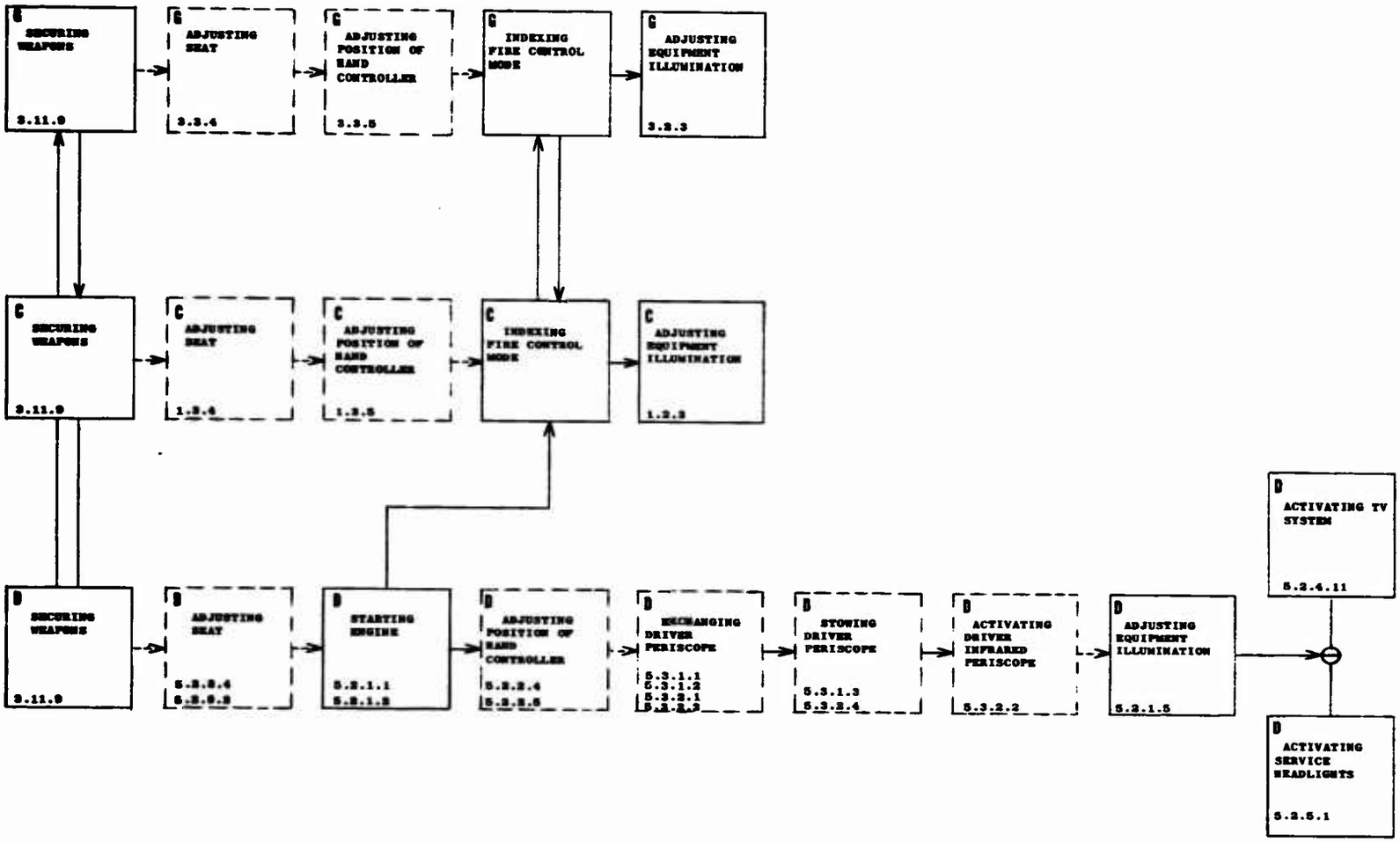
ESTABLISHING VEHICLE MODE (Administrative March)



NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SQA	C
7.1	CGD	TASKS ALWAYS PERFORMED												
	CGD	Securing Weapons (3.11.9)												
	C	Indexing Fire Control Mode												
	C	Adjusting Equipment Illumination (1.2.3)												
	G	Indexing Fire Control Mode												
	C	Adjusting Equipment Illumination (3.2.3)												
	D	Starting Engine (5.2.1.1. - 5.2.1.2)												
	D	Adjusting Equipment Illumination												
	D	Activating TV System (5.2.4.11)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	D	Activating Service Headlights (5.2.5.2)												
7.2	CGD	TASKS FREQUENTLY PERFORMED												
	C	Adjusting Seat (1.3.4)												
	C	Adjusting Position of Hand Controller (1.3.5)												
	G	Adjusting Seat (3.3.4)												
	G	Adjusting Position of Hand Controller (3.3.5)												
	D	Adjusting Seat (5.2.8.4 - 5.2.8.2)												
	D	Adjusting Position of Hand Controller (5.2.2.4 - 5.2.2.5)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	D	Exchanging Driver Periscope (5.3.1.1 - 5.3.1.2 - 5.3.2.1 - 5.3.2.3)												
	D	Stowing Driver Periscope (5.3.1.3 - 5.3.2.4)												
	D	Activating Driver Infrared Periscope (5.3.2.2)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
8.0	CGD	ESTABLISHING VEHICLE MODE (Combat March)												

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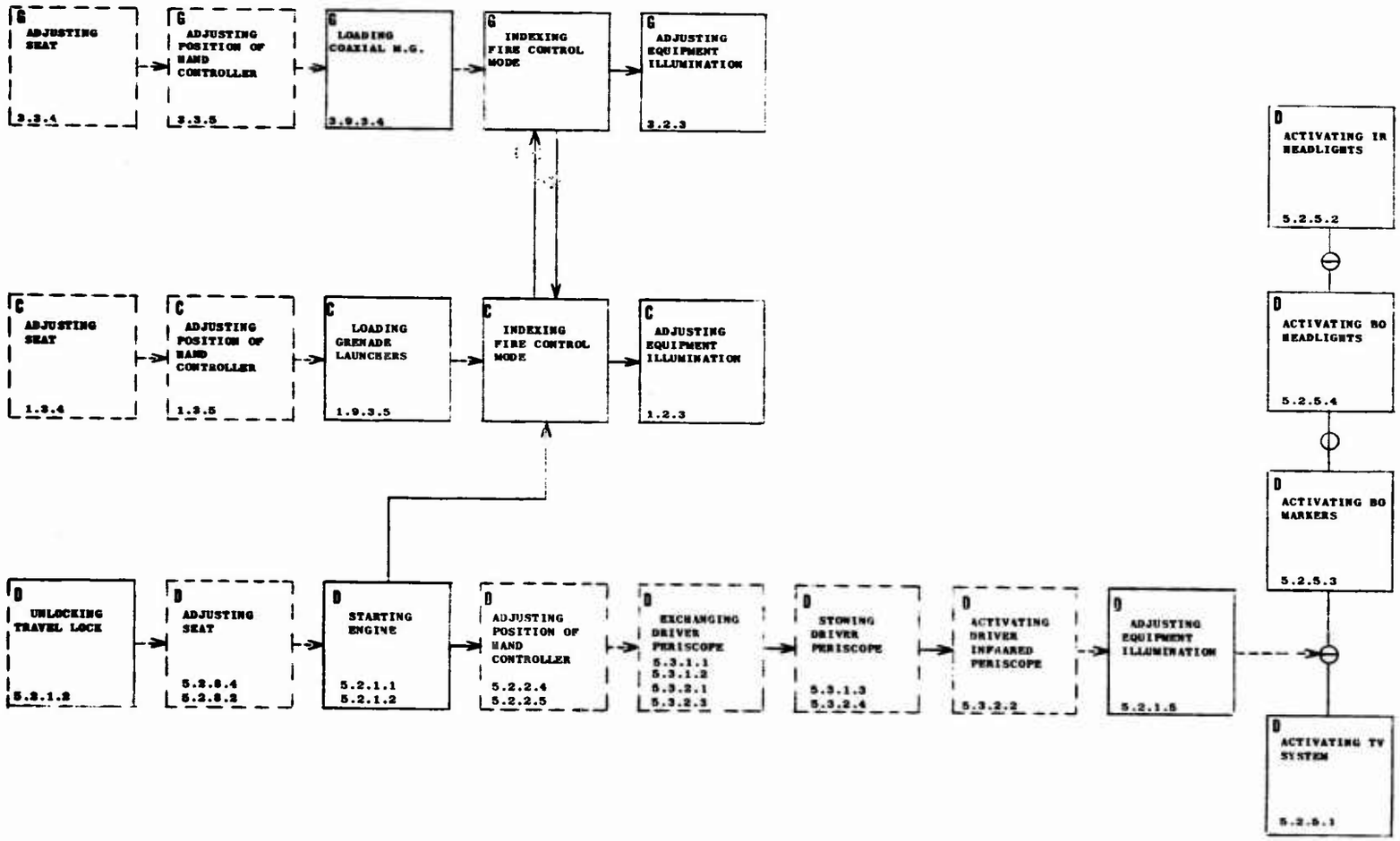
ESTABLISHING VEHICLE MODE (Combat March)



NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SQA	C
8.1	CGD	TASKS ALWAYS PERFORMED												
	C	Loading Grenade Launcher (1.9.3.5)												
	C	Indexing Fire Control Mode												
	C	Adjusting Equipment Illumination (1.2.3)												
	G	Loading Coaxial M.G. (3.9.3.4)												
	G	Indexing Fire Control Mode												
	G	Adjusting Equipment Illumination (3.2.3)												
	D	Unlocking Travel Lock (5.2.12)												
	D	Starting Engine (5.2.1.1. - 5.2.1.2)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	D	Adjusting Equipment Illumination (5.2.1.5)												
	D	Activating TV System												
	D	Activating IR Headlights (5.2.5.2)												
	D	Activating BO Markers (5.2.5.3)												
	D	Activating BO Headlights (5.2.5.4)												
8.2	CGD	TASKS FREQUENTLY PERFORMED												
	C	Adjusting Seat (1.3.4)												
	C	Adjusting Position of Hand Controller (1.3.5)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	G	Adjusting Seat (3.3.4)												
	G	Adjusting Position of Hand Controller (3.3.5)												
	D	Adjusting Seat (5.2.8.4 - 5.2.8.2)												
	D	Adjusting Position of Hand Controller (5.2.2.4 - 5.2.2.5)												
	D	Exchanging Driver Periscope (5.3.1.1. - 5.3.1.2 - 5.3.2.1 - 5.3.2.3)												
	D	Stowing Driver Periscope (5.3.1.3 - 5.3.2.4)												
	D	Activating Driver Infrared Periscope (5.3.2.2)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
9.0	CGD	ESTABLISHING VEHICLE MODE (Before Water Operation)												

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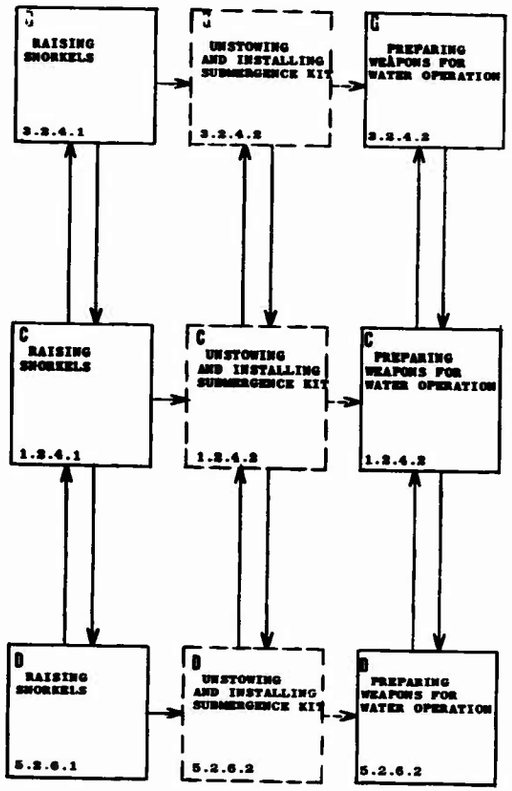
ESTABLISHING VEHICLE MODE (Before Water Operation)



NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
9.1	CGD	TASKS ALWAYS PERFORMED												
	CGD	Raising Snorkels (1.2.4.1 - 3.2.4.1 - 5.2.6.1)												
	CGD	Preparing Weapons for Water Operation (1.2.4.2 - 3.2.4.2 - 5.2.6.2)												
9.2	CGD	TASKS FREQUENTLY PERFORMED												
	CGD	Unstowing and Installing Submergence Kit (1.2.4.2 - 3.2.4.2 - 5.2.6.2)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
10.0	CCD	ESTABLISHING VEHICLE MODE (After Water Operation)												

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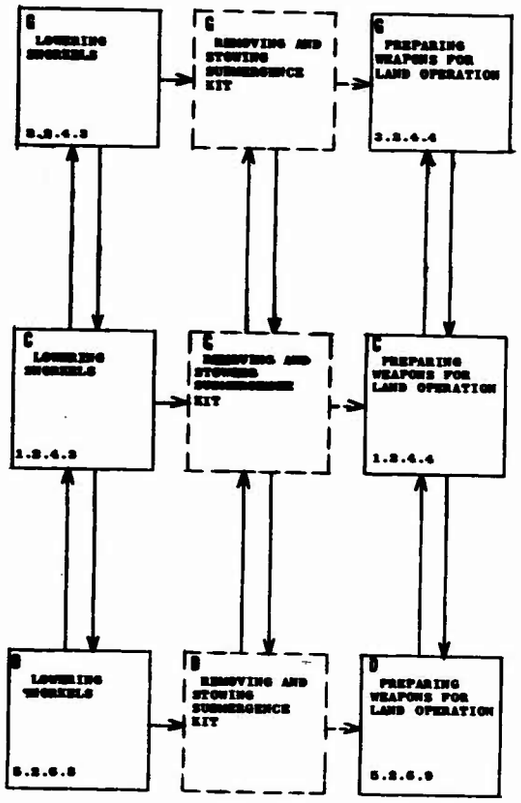
ESTABLISHING VEHICLE MODE (After Water Operation)



NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
10.1	CGD	TASKS ALWAYS PERFORMED												
	CGD	Lower Snorkels (1.2.4.3 - 3.2.4.3 - 5.2.6.8)												
	CGD	Preparing Weapons for Land Operation (1.2.4.4 - 3.2.4.4. - 5.2.6.9)												
10.2	CGD	TASKS FREQUENTLY PERFORMED												
	CGD	Removing and Stowing Submergence Kit												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
11.0	D	DRIVING THE VEHICLE FROM DRIVER STATION												

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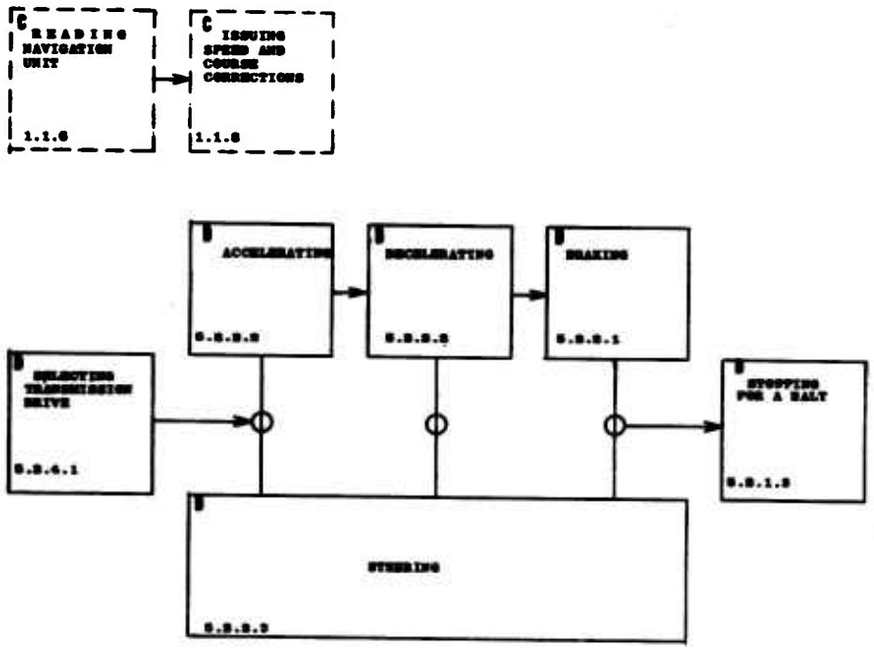
DRIVING THE VEHICLE FROM DRIVER STATION



NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
11.1	D	TASKS ALWAYS PERFORMED												
	D	Selecting Transmission Drive (5.2.4.1)												
	D	Accelerating (5.2.2.2.)												
	D	Decelerating (5.2.2.2)												
	D	Braking (5.2.2.1)												
	D	Steering (5.2.2.3)												
	D	Stopping for a Halt (5.2.1.3)												
11.2	C	TASKS FREQUENTLY PERFORMED												
	C	Reading Navigation Display (1.1.6)												
	C	Issuing Speed and Course Corrections (1.1.8)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
12.0	C	DRIVING THE VEHICLE FROM COMMANDER STATION												

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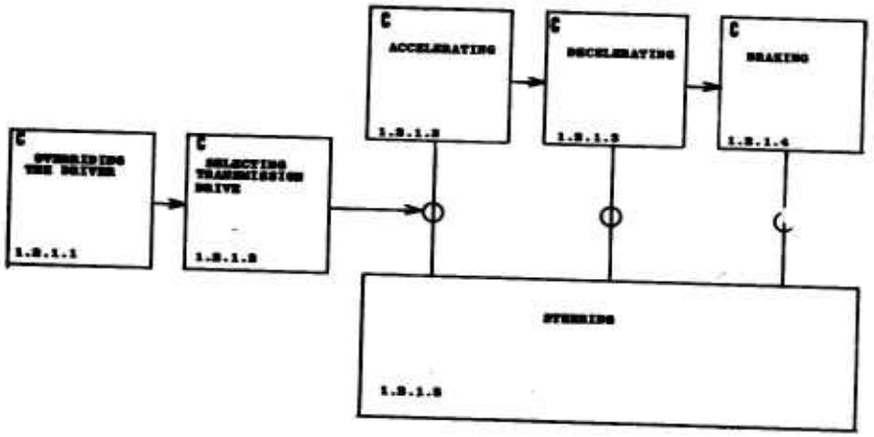
DRIVING THE VEHICLE FROM COMMANDER STATION



NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
12.1	C	TASKS ALWAYS PERFORMED												
	C	Overriding the Driver (1.2.1.1)												
	C	Selecting Transmission Drive (1.2.1.2)												
	C	Accelerating (1.2.1.3)												
	C	Decelerating (1.2.1.3)												
	C	Braking (1.2.1.4)												
	C	Steering (1.2.1.5)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
13.0	D	DRIVING THE VEHICLE (Emergency Mode)												

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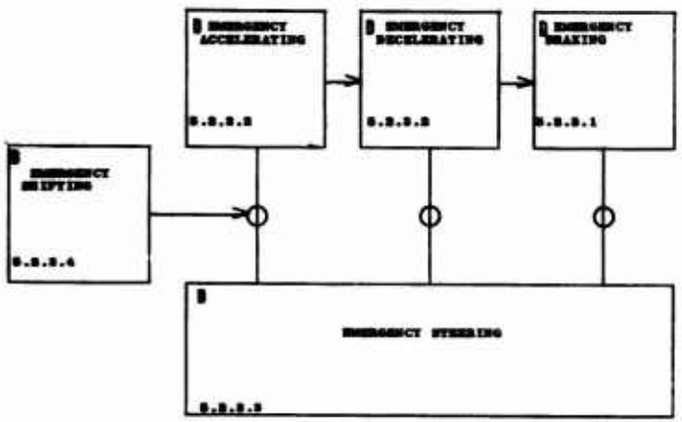
DRIVING THE VEHICLE (Emergency Mode)



NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
13.1	D	TASKS ALWAYS PERFORMED												
	D	Emergency Shifting (5.2.3.4)												
	D	Emergency Accelerating (5.2.3.2)												
	D	Emergency Decelerating (5.2.3.2)												
	D	Emergency Braking (5.2.3.1)												
	D	Emergency Steering (5.2.3.3)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
14.0	CGD	MONITORING SYSTEMS												

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MONITORING SYSTEMS

G
MONITORING
GUNNER STATION
LAMPS

3.5.1

C
MONITORING
COMMANDER STATION
LAMPS

1.5.1

D
MONITORING
DRIVER STATION
LAMPS

5.5.0

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
14.1	CCD	TASKS ALWAYS PERFORMED												
	C	Monitoring Commander Station Lamps (1.5.1)												
	G	Monitoring Gunner Station Lamps (3.5.1)												
	D	Monitoring Driver Station Lamps (5.5.0)												
14.3	D	TASKS SELDOM PERFORMED												
	D	Responding to Master Warning Lamp (5.14.1.2) F-5.5.0												
	D	Responding to Central Warning Lamp (5.14.1.1) F-5.5.0												
	D	Responding to Fire Warning Lamp (5.14.1.3) F-5.5.0												
	D	Responding to Transmission Pressure Lamp (5.14.1.4) F-5.5.0												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	D	Responding to Transmission Temperature Lamp (5.14.1.5) F-5.5.0												
	D	Responding to Steer Warning Lamp (5.14.1.6) F-5.5.0												
	D	Responding to Engine Pressure Lamp (5.14.1.7) F-5.5.0												
	D	Responding to Engine Temperature Warning Lamp (5.14.1.8) F-5.5.0												
	D	Responding to Transmission Filter Pressure Lamp (5.14.1.9) F-5.5.0												
	D	Responding to Transmission Oil High Temperature Gauge (5.14.1.10) F-5.5.0												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
15.0	D	REGULATING VEHICLE ENVIRONMENT												

REGULATING VEHICLE ENVIRONMENT

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
15.1	D	<u>TASKS ALWAYS PERFORMED</u>												
	D	Controlling Fresh Air Intake (5.2.11)												
	D	Operating Personnel Heater (5.2.11)												
	D	Operating Combustion Heater (5.2.11)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
16.0	CGD	ESCAPING FROM VEHICLE												

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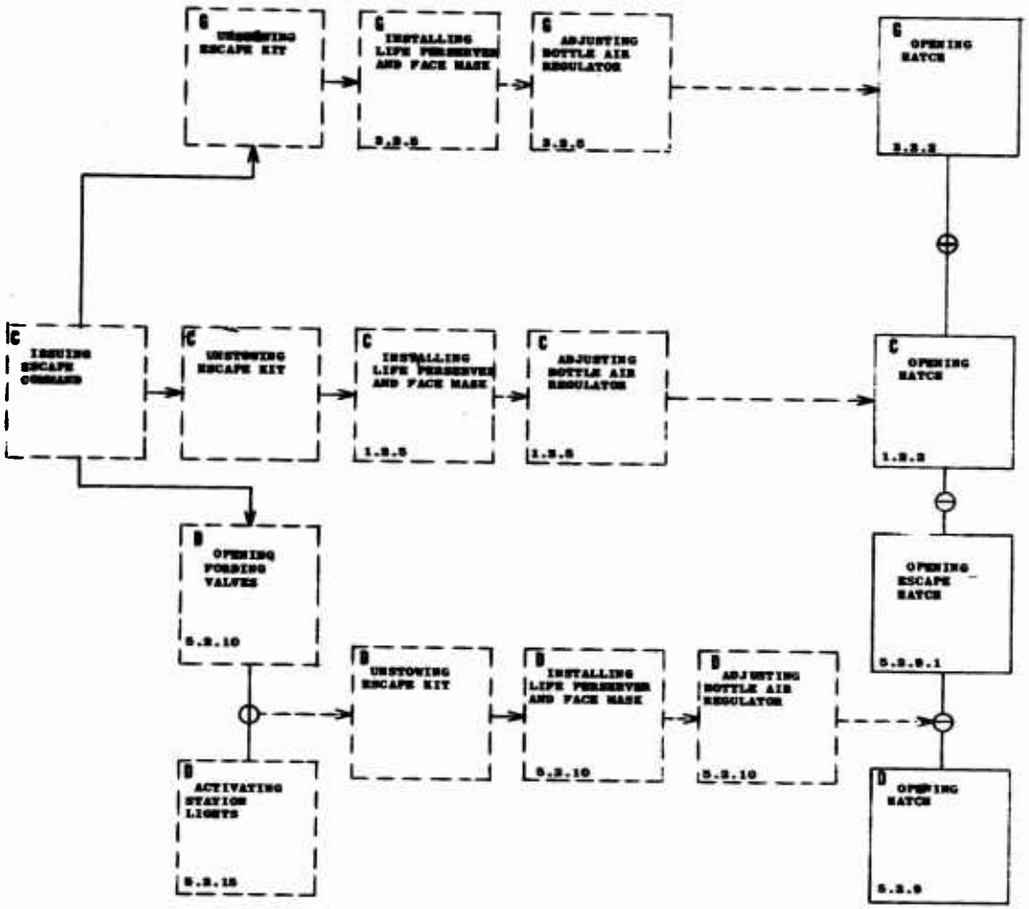
ESCAPING FROM VEHICLE



NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
16.1	CGD	TASKS ALWAYS PERFORMED												
	C	Opening Hatch (1.2.2)												
	G	Opening Hatch (3.2.2)												
	D	Opening Hatch (5.2.9)												
	CGD	Opening Escape Hatch												
16.2	CGD	TASKS FREQUENTLY PERFORMED												
	C	Unstowing Escape Kit												
	C	Installing Life Preserver and Face Mask (1.2.5)												
	C	Adjusting Bottle Air Regulator (1.2.5)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	G	Unstowing Escape Kit												
	G	Installing Life Preserver and Face Mask (3.2.5)												
	G	Adjusting Bottle Air Regulator (3.2.5)												
	D	Opening Fording Valves (5.2.10)												
	D	Activating Station Lamps (5.2.15)												
	D	Unstowing Escape Kit												
	D	Installing Life Preserver and Face Mask (5.2.10)												
	D	Adjusting Bottle Air Regulator (5.2.10)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
16.3	CGD	TASKS SELDOM PERFORMED												
	CGD	Opening Escape Hatch from Outside of Vehicle (5.2.9.3)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
17.0	D	EXTINGUISHING VEHICLE FIRE												

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EXTINQUISHING VEHICLE FIRE

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
17.1	D	<u>TASKS ALWAYS PERFORMED</u> Operating Portable Fire Extinguisher (3.2.7)												
	D	Activating Fixed Fire Extinguisher - Inside (5.2.14.2)												
	D	Activating Fixed Fire Extinguisher - Outside (5.2.14.3)												

SURVEILLANCE

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NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
18.0	CGD	ESTABLISHING OPEN HATCH SURVEILLANCE												

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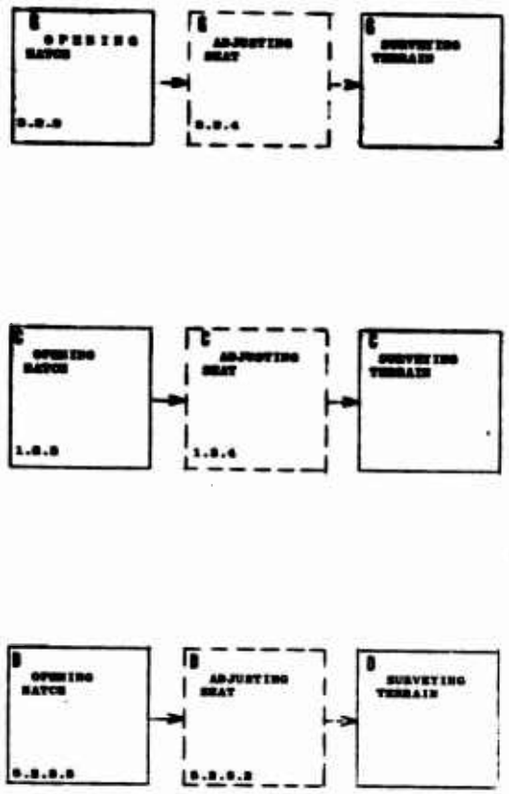
ESTABLISHING OPEN HATCH SURVEILLANCE



NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
18.1	CGD	TASKS ALWAYS PERFORMED												
	C	Opening Hatch (1.2.2)												
	G	Opening Hatch (3.2.2)												
	D	Opening Hatch (5.2.8.5)												
18.2	CGD	TASKS FREQUENTLY PERFORMED												
	C	Adjusting Seat (1.3.4)												
	G	Adjusting Seat (3.3.4)												
	D	Adjusting Seat (5.2.8.2)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
19.0	CGD	ESTABLISHING CLOSED HATCH SURVEILLANCE												

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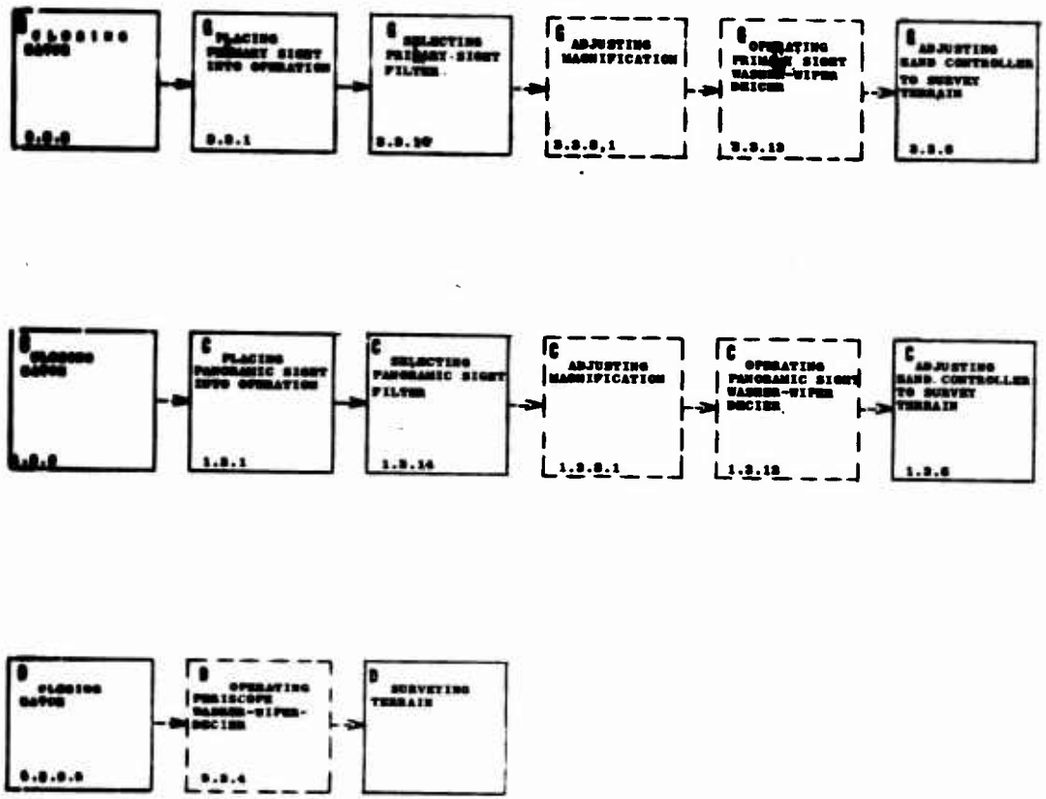
ESTABLISHING CLOSED HATCH SURVEILLANCE

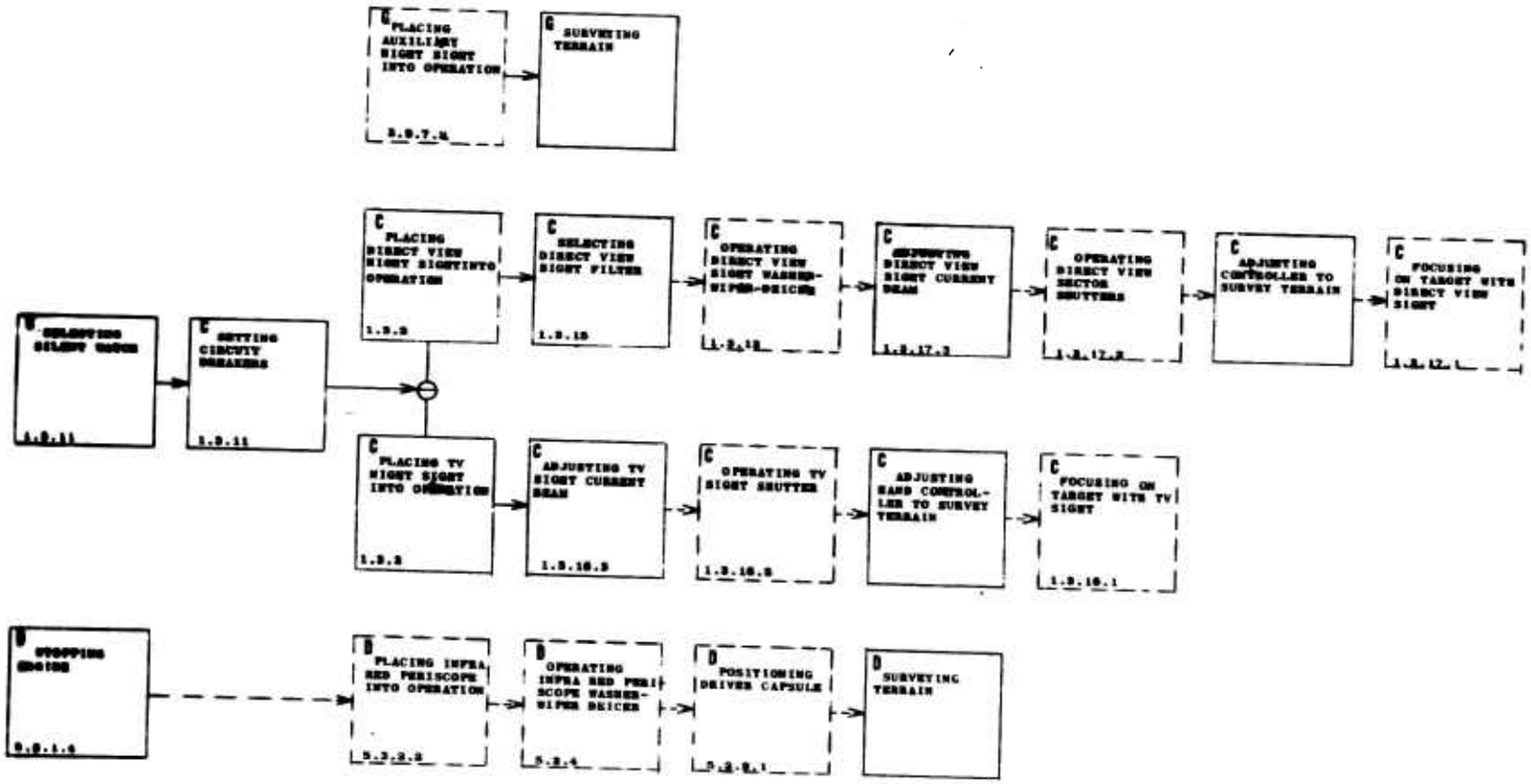


NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
19.1	CGD	TASKS ALWAYS PERFORMED												
	C	Closing Hatch (1.2.2)												
	C	Placing Panoramic Sight Into Operation (1.3.1)												
	C	Selecting Panoramic Sight Filter (1.3.14)												
	C	Adjusting Hand Controller (1.3.6)												
	G	Closing Hatch (3.2.2)												
	G	Placing Primary Sight Into Operation (3.3.1)												
	G	Selecting Primary Sight Filter (3.3.14)												
	G	Adjusting Hand Controller (3.3.6)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	D	Closing Hatch												
19.2	CGD	TASKS FREQUENTLY PERFORMED												
	C	Adjusting Magnification (1.3.8.1)												
	C	Operating Panoramic Sight Washer - Wiper - Deicer (1.3.12)												
	G	Adjusting Magnification (3.3.8.1)												
	G	Operating Primary Sight Washer - Wiper - Deicer												
	D	Operating Periscope Washer - Wiper - Deicer (5.3.4)												
19.3	G	TASKS SELDOM PERFORMED												
	G	Placing Auxiliary Sight Into Operation (3.3.2) R-3.3.1												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
20.0	CGD	ESTABLISHING SILENT WATCH SURVEILLANCE												

ESTABLISHING SILENT WATCH SURVEILLANCE



NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
20.1	CCD	TASKS ALWAYS PERFORMED												
	C	Selecting Silent Watch (1.3.11)												
	C	Setting Circuit Breakers (1.3.11)												
	C	Placing TV Night Sight Into Operation (1.3.3)												
	C	Adjusting TV Sight Beam Current (1.3.16.3)												
	C	Placing Direct View Night Sight Into Operation (1.3.2)												
	C	Selecting Direct View Sight Filter (1.3.15)												
	C	Adjusting Direct View Sight Beam Current (1.3.17.3)												
	D	Stopping Engine (5.2.1.4)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
20.2	CGD	TASKS FREQUENTLY PERFORMED												
	C	Operating TV Sight Shutter (1.3.16.2)												
	C	Focusing on Target with TV Sight (1.3.16.1)												
	C	Operating Direct View Sight Washer - Wiper - Deicer (1.3.13)												
	C	Operating Direct View Sight Sector Shutters (1.3.17.2)												
	C	Focusing on Target with Direct View Sight (1.3.17.1)												
	C	Placing Auxiliary Night Sight Into Operation (3.9.7.2)												
	D	Placing Infrared Periscope Into Operation (5.3.2.2)												
	D	Operating Infrared Periscope Washer - Wiper - Deicer (5.3.4												
	D	Positioning Driver Capsule (5.2.8.1)												

TARGET ENGAGEMENT

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
21.0	GD	PREPARING RANGE CARD DATA												

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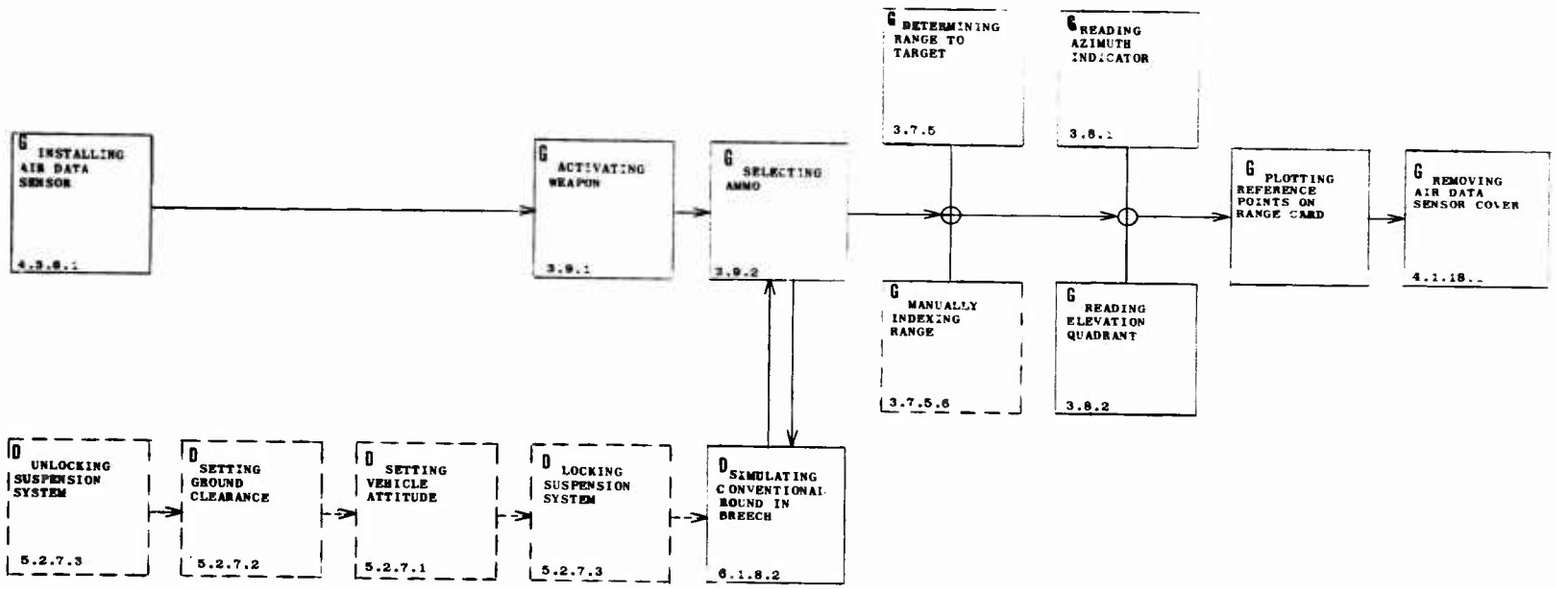
PREPARING RANGE CARD DATA

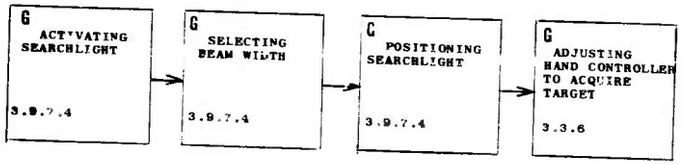


NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
21.1	GD	TASKS ALWAYS PERFORMED												
	G	Installing Air Data Sensor Cover (4.3.6.1)												
	G	Activating Weapon (3.9.1)												
	G	Selecting Ammunition (3.9.2)												
	G	Determining Range to Target (3.7.5)												
	G	Reading Azimuth Indicator (3.8.1)												
	G	Reading Elevation Quadrant (3.8.2)												
	G	Plotting Reference Points on Range Card												
	G	Removing Air Data Sensor (4.1.18.1)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	D	Simulating Conventional Round in Breech (6.1.8.2)												
21.2	GD	TASKS FREQUENTLY PERFORMED												
	G	Manually Indexing Range (3.7.5.6)												
	D	Unlocking Suspension System (5.2.7.3)												
	D	Setting Ground Clearance (5.2.7.2)												
	D	Setting Vehicle Attitude (5.2.7.1)												
	D	Locking Suspension System (5.2.7.3)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
22.0	G	ILLUMINATING TARGETS												

ILLUMINATING TARGETS



NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
22.1	G	TASKS ALWAYS PERFORMLD												
	G	Activating Searchlight (3.9.7.4)												
	G	Selecting Beam Width (3.9.7.4)												
	G	Positioning Searchlight (3.9.7.4)												
	G	Adjusting Hand Controller to Acquire Target												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
23.0	CGD	FIRING MAIN WEAPON FROM GUNNER STATION												

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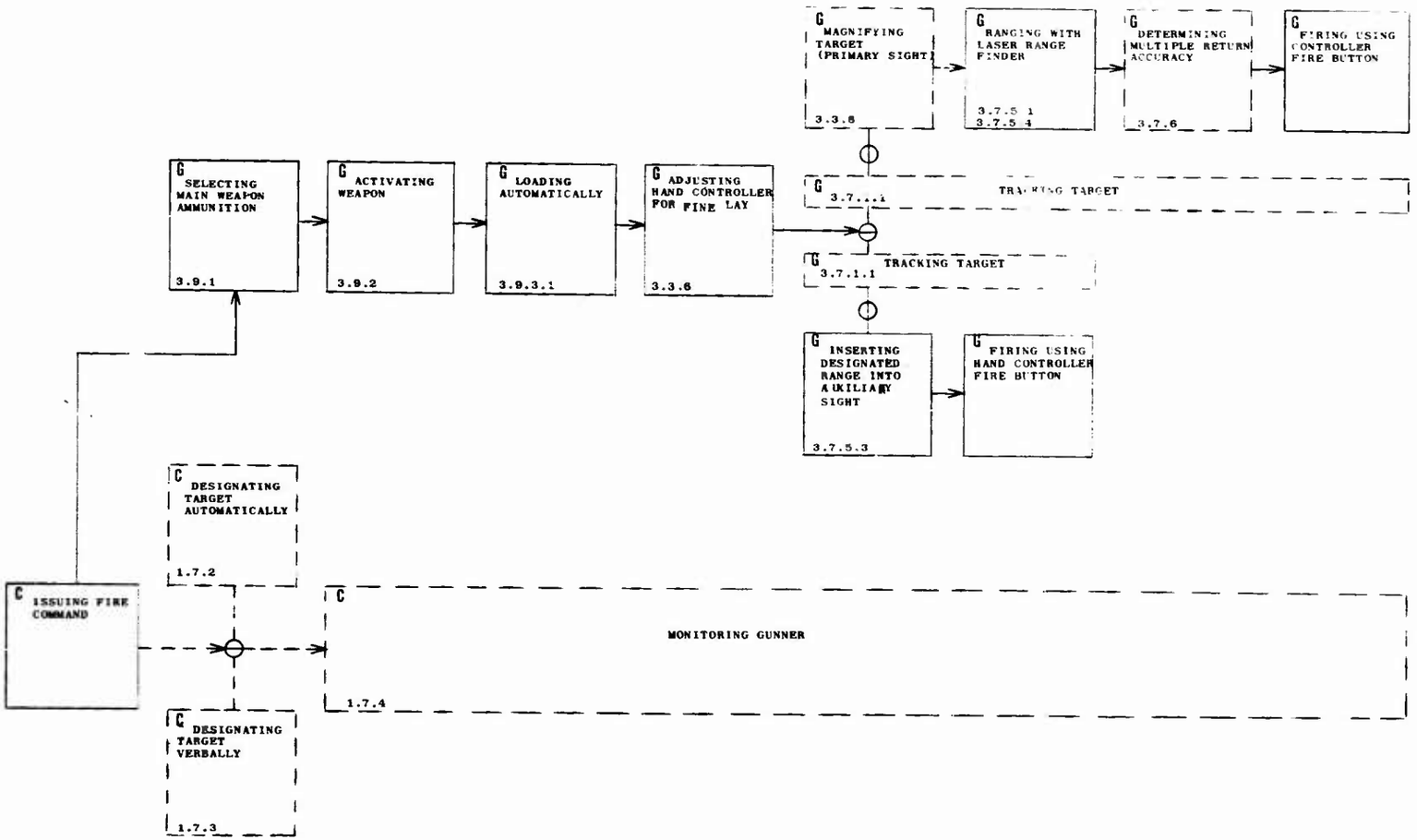
FIRING MAIN WEAPON FROM GUNNER STATION



NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
23.1	CG	TASKS ALWAYS PERFORMED												
	C	Issuing Fire Command												
	G	Selecting Main Weapon Ammunition (3.9.1)												
	G	Activating Weapon (3.9.2)												
	G	Loading Automatically (3.9.3.1)												
	G	Adjusting Hand Controller for Fine Lay (3.3.6)												
	G	Ranging with Laser Rangefinder (3.7.5.1 - 3.7.5.4)												
	G	Inserting Range into Auxiliary Sight (3.7.5.3)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
23.2	CG	TASKS FREQUENTLY PERFORMED												
	C	Designating Target Automatically (1.7.2)												
	C	Designating Target Verbally (1.7.3)												
	C	Monitoring Gunner (1.7.4)												
	G	Magnifying Target (Primary Sight) (3.3.8)												
	G	Determining Multiple Return Accuracy (3.7.1.1)												
	G	Tracking Target (3.7.1.1)												
23.3	CD	TASKS SELDOM PERFORMED												
	G	Recycling Missile Guidance and Control System (3.9.6.3)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	G	Unloading Automatically (3.9.4.1)												
	G	Unloading Manually (3.9.4.2)												
	GD	Responding to Main Weapon Misfire (3.9.9.2 - 3.9.9.1 - 5.9.2.2 - 5.9.2.1)												
	D	Responding to a Stuck Round (5.9.2.3 - 5.9.2.4)												
	D	Replenishing Autoloader from Crew Compartment (5.9.3)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
24.0	C	FIRING MAIN WEAPON FROM COMMANDER STATION												

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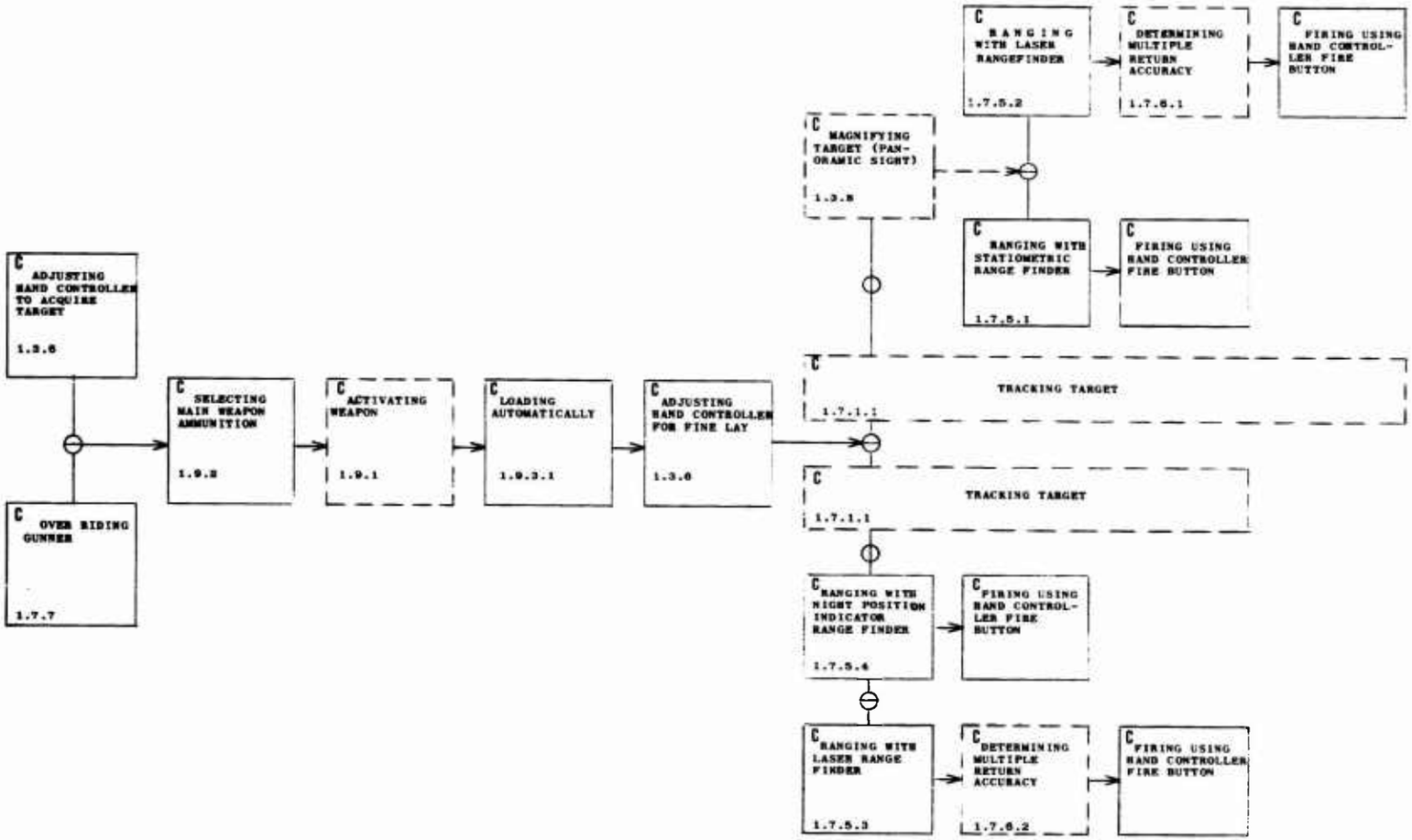
FIRING MAIN WEAPON FROM COMMANDER STATION

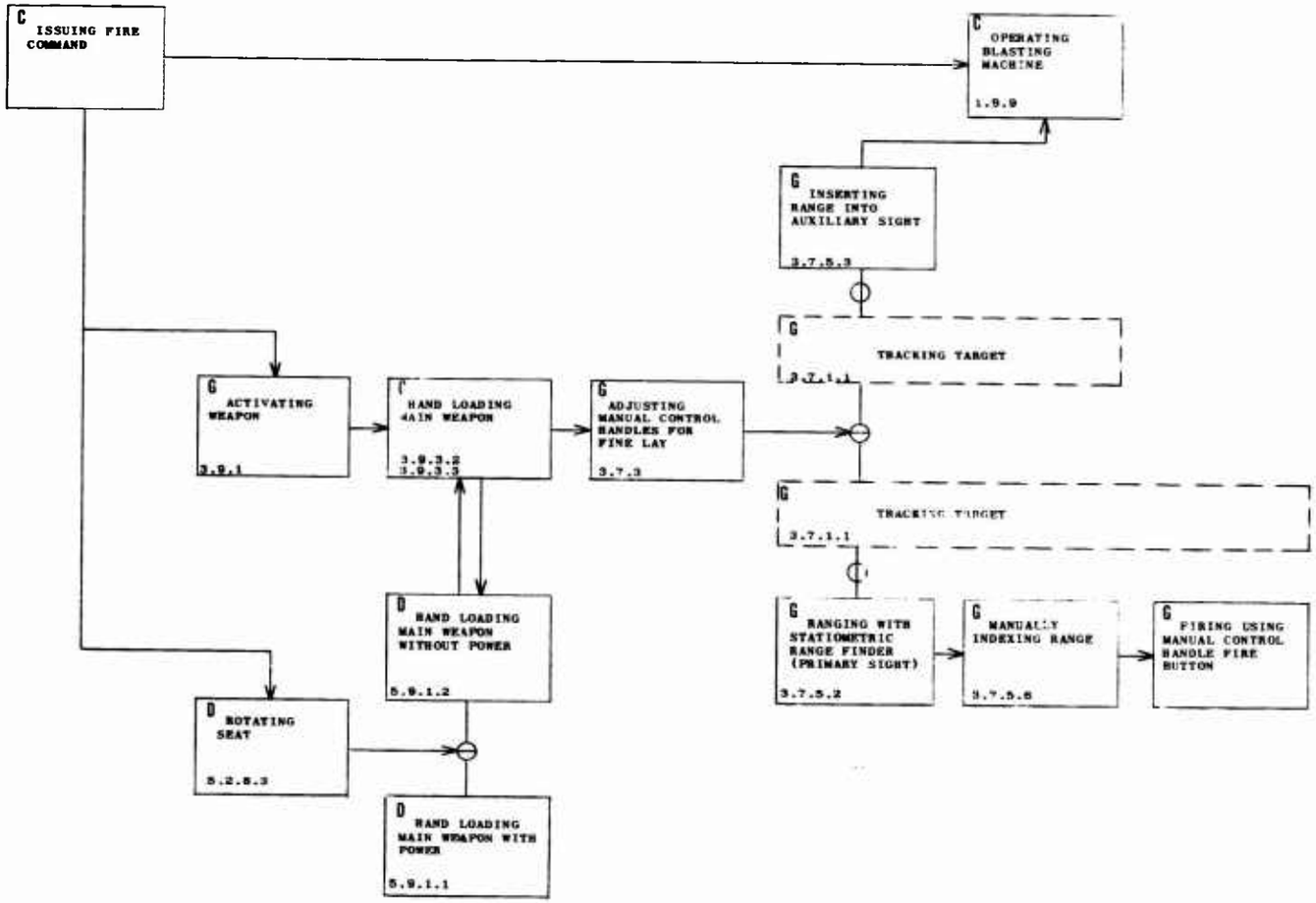


NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
24.1	C	TASKS ALWAYS PERFORMED												
	C	Overriding Gunner (1.7.7)												
	C	Activating Weapon												
	C	Selecting Main Weapon Ammunition (1.9.2)												
	C	Loading Automatically (1.9.3.1)												
	C	Adjusting Main Weapon for Fine Lay (1.3.6)												
	C	Ranging with Stadiametric Rangefinder (1.7.5.1)												
	C	Ranging with Laser Rangefinder (1.7.5.2 - 1.7.5.3)												
	C	Ranging with Night Position Indicator Rangefinder (1.7.5.4)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
24.2	C	TASKS FREQUENTLY PERFORMED												
	C	Magnifying Target (Panoramic Sight) (1.3.8)												
	C	Determining Multiple Return Accuracy (1.7.6.1 - 1.7.6.2)												
	C	Tracking Target												
24.3	C	TASKS SELDOM PERFORMED												
	C	Recycling Missile Guidance and Control System (1.9.6.4)												
	C	Unloading Manually (1.9.4.1)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
25.0	CG	FIRING MAIN WEAPON (Emergency Mode)												

FIRING MAIN WEAPON (EMERGENCY MODE)

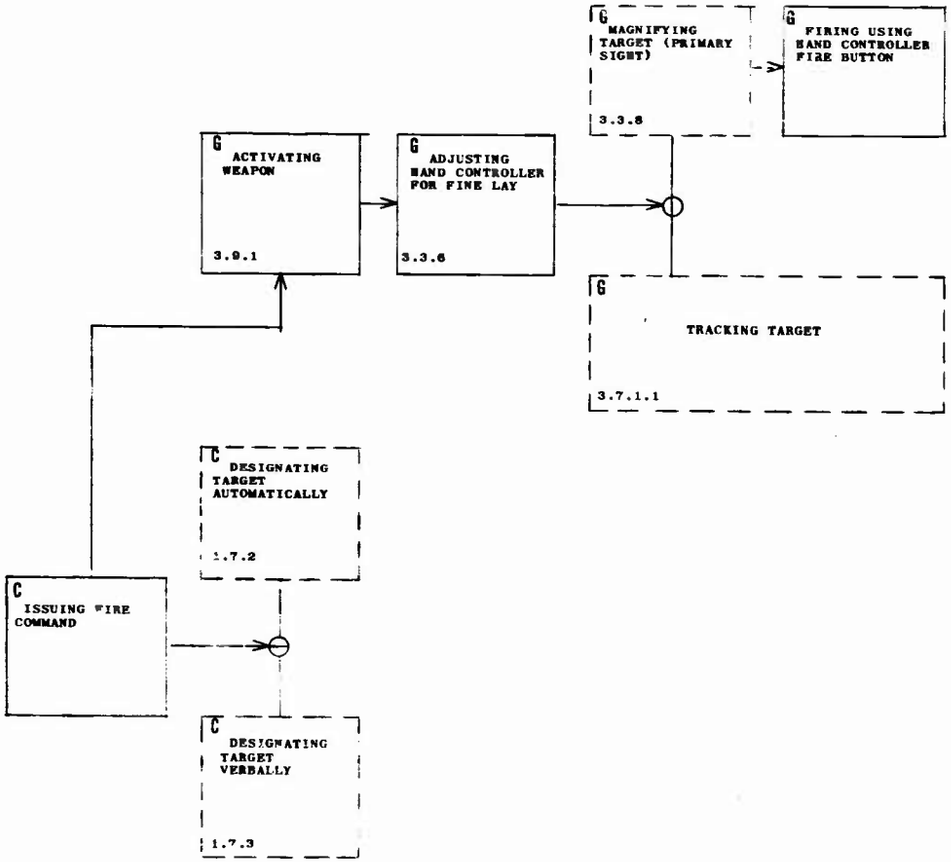


NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
25.1	CGD	TASKS ALWAYS PERFORMED												
	C	Issuing Fire Command												
	C	Operating Blasting Machine (1.9.9)												
	G	Activating Weapon (3.9.1)												
	GD	Handloading Main Weapon with Power (3.9.3.3 - 5.9.1.2)												
	GD	Handloading Main Weapon without Power (3.9.3.3 - 5.9.1.2)												
	G	Adjusting Manual Control Handle for Fine Lay (3.7.3)												
	G	Inserting Range into Auxiliary Sight (3.7.5.3)												
	G	Ranging with Stadiametric Rangefinder (Primary Sight) (3.7.5.2)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	G	Manually Indexing Range (3.7.5.6)												
	D	Rotating Seat (5.2.8.3)												
25.2	G	TASKS FREQUENTLY PERFORMED												
	G	Tracking Target (3.7.1.1)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
26.0	CG	FIRING COAXIAL MACHINE GUN FROM GUNNER STATION												

FIRING COAXIAL MACHINE GUN FROM GUNNER STATION



NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
26.1	CG	TASKS ALWAYS PERFORMED												
	C	Issuing Fire Command												
	G	Adjusting Hand Controller for Fine Lay (3.3.6)												
26.2	CG	TASKS FREQUENTLY PERFORMED												
	C	Designating Target Automatically (1.7.2)												
	G	Tracking Target (3.7.1.1)												
	G	Magnifying Target												
26.3	G	TASKS SELDOM PERFORMED												
	G	Responding to a Coaxial Machine Gun Misfire (3.9.9.3)												
	G	Charging Coaxial Machine Gun												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SO*	C
27.0	C	FIRING COAXIAL MACHINE GUN FROM COMMANDER STATION												

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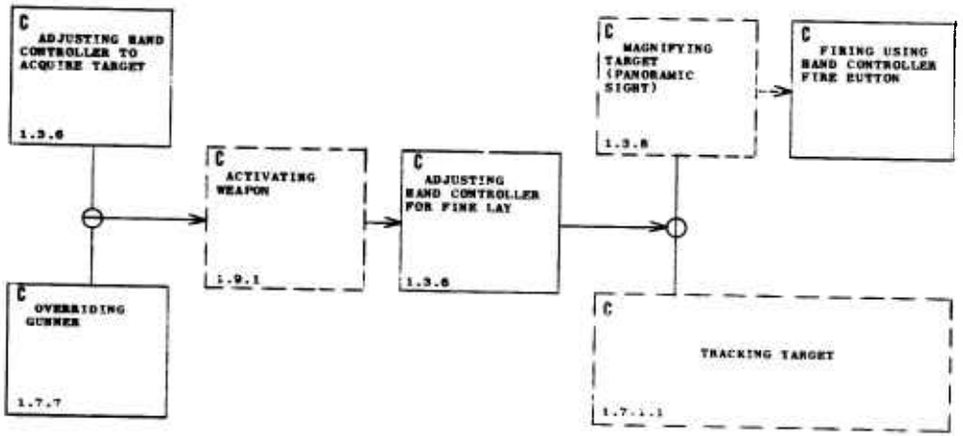
FIRING COAXIAL MACHINE GUN FROM COMMANDER STATION



NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
27.1	C	TASKS ALWAYS PERFORMED												
	C	Overriding Gunner (1.7.7)												
	C	Activating Weapon (1.9.1)												
27.2	C	TASKS FREQUENTLY PERFORMED												
	C	Tracking Target (1.7.1.1)												
	C	Magnifying Target (Panoramic Sight) (1.3.8)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
28.0	CG	FIRING SECONDARY WEAPON FROM GUNNER STATION												

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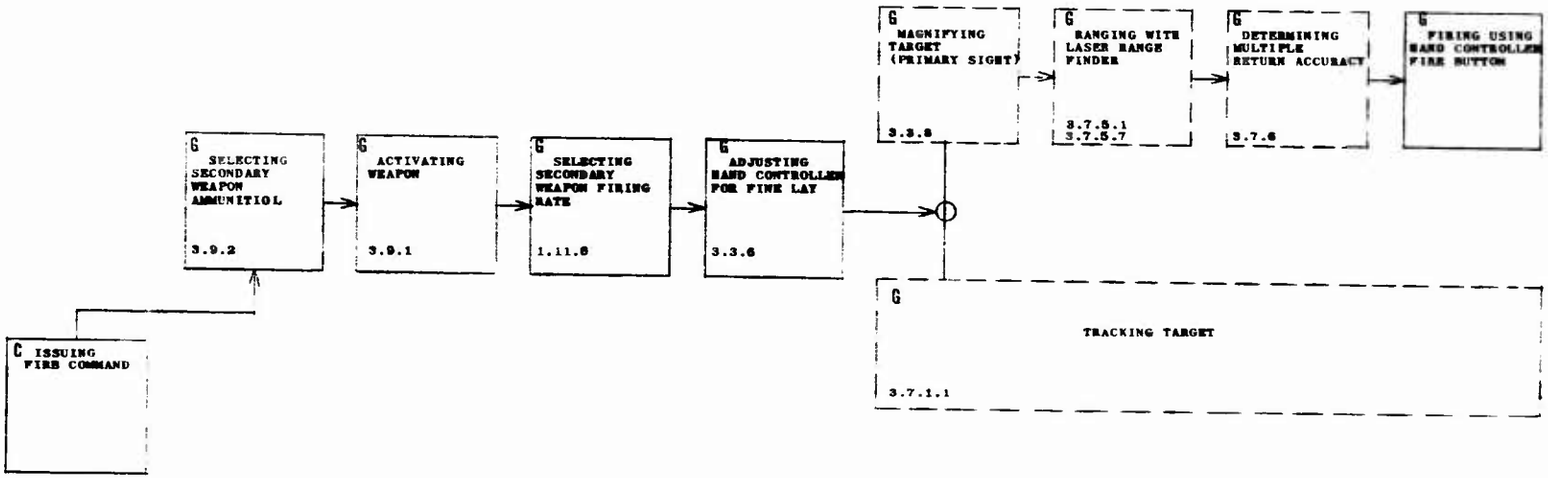
FIRING SECONDARY WEAPON FROM GUNNER STATION

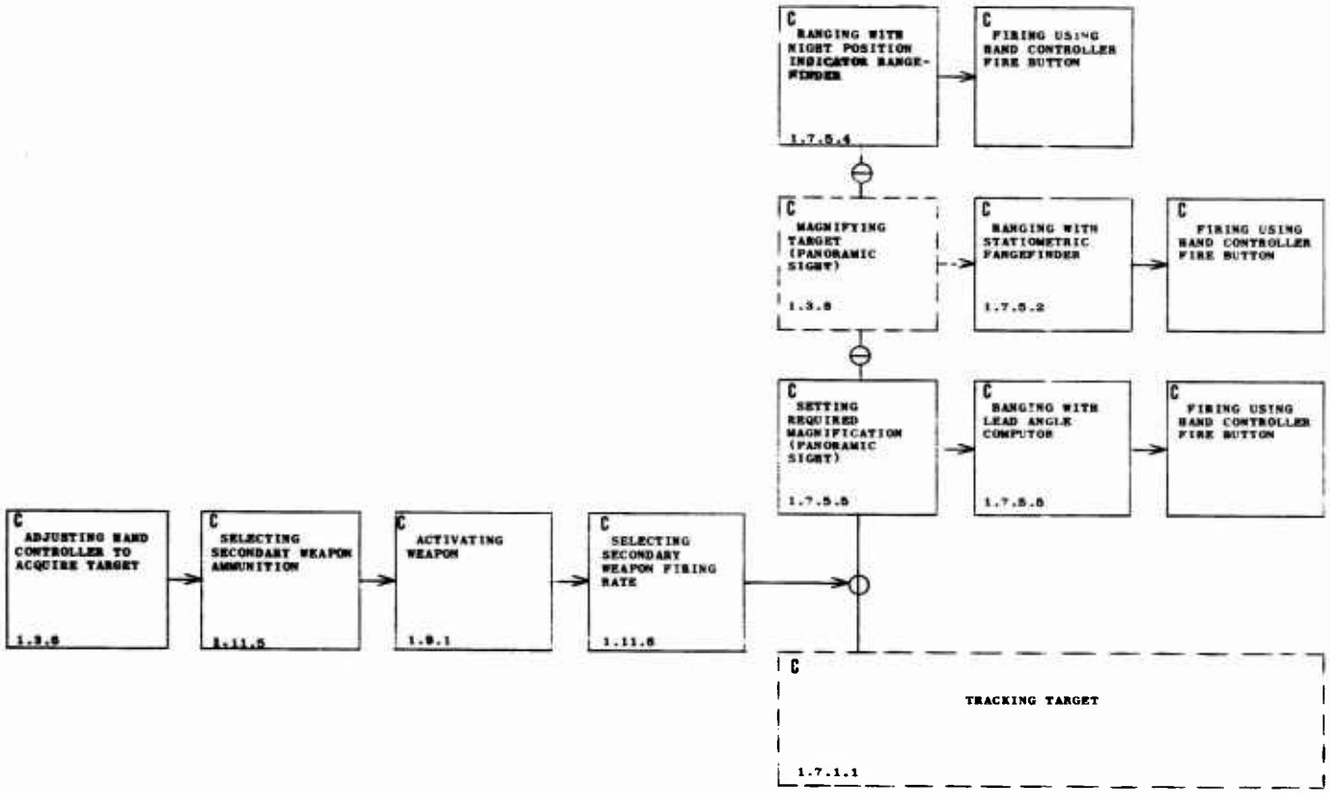


NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
28.1	CG	TASKS ALWAYS PERFORMED												
	C	Issuing Fire Command												
	G	Selecting Secondary Weapon Ammunition (3.9.2)												
	G	Activating Weapon (3.9.1)												
	G	Selecting Secondary Weapon Firing Rate (1.11.6)												
	G	Adjusting Hand Controller for Fine Lay (3.3.6)												
28.2	G	TASKS FREQUENTLY PERFORMED												
	G	Tracking Target (3.7.1.1)												
	G	Magnifying Target (3.3.8)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	G	Ranging with Laser Rangefinder (3.7.5.1 - 3.7.5.7)												
	G	Determining Multiple Return Accuracy (3.7.6)												
28.3	G	TASKS SELDOM PERFORMED												
	G	Responding to Secondary Weapon Misfire (3.9.9.4)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
29.0	C	FIRING SECONDARY WEAPON FROM COMMANDER STATION												

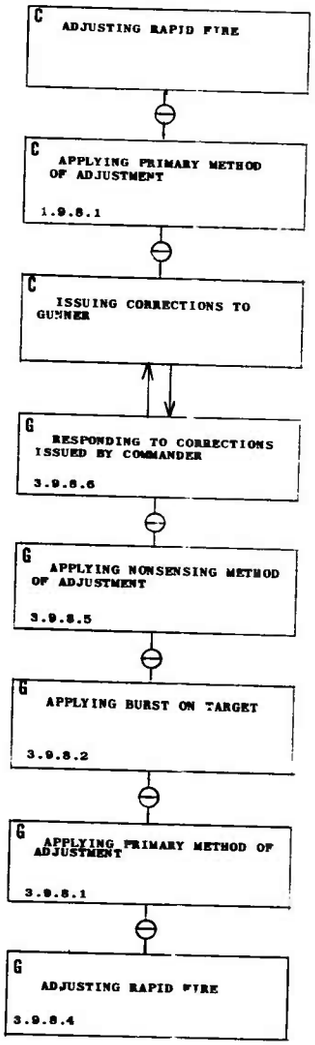
FIRING SECONDARY WEAPON FROM COMMANDER STATION



NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
29.1	C	TASKS ALWAYS PERFORMED												
	C	Selecting Secondary Weapon Ammunition (1.11.5)												
	C	Activating Weapon (1.9.1)												
	C	Selecting Secondary Weapon Firing Rate (1.11.6)												
	C	Setting Required Magnification (Panoramic Sight) (1.7.5.5)												
	C	Ranging with Lead Angle Computer (1.7.5.5)												
	C	Ranging with Stadiametric Rangefinder (1.7.5.2)												
	C	Ranging with Night Position Indicator Rangefinder (1.7.5.4)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
29.2	C	TASKS FREQUENTLY PERFORMED												
	C	Magnifying Target (Panoramic Sight) (1.3.8)												
	C	Tracking Target (1.7.1.1)												
29.3	C	TASKS SELDOM PERFORMED												
	C	Responding to Secondary Weapon Misfire												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
30.0	CG	ADJUSTING WEAPON FIRE												

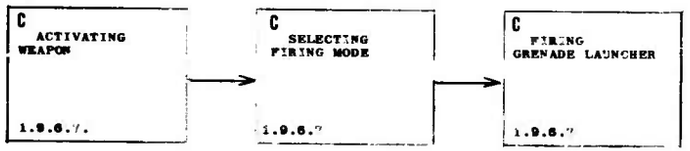


ADJUSTING WEAPON FIRE

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
30.1	CG	TASKS ALWAYS PERFORMED												
	C	Adjusting Rapid Fire												
	C	Applying Primary Method of Adjustment (1.9.8.1)												
	C	Issuing Corrections to Gunner												
	G	Responding to Corrections Issued by Commander (3.9.8.6)												
	G	Applying Nonsensing Method of Adjustment (3.9.8.5)												
	G	Applying Burst on Target (3.9.8.2)												
	G	Applying Primary Method of Adjustment (3.9.8.1)												
	G	Adjusting Rapid Fire (3.9.8.4)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
31.0	C	FIRING GRENADE LAUNCHERS												

FIRING GRENADE LAUNCHERS



NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
31.1	C	TASKS ALWAYS PERFORMED												
	C	Activating Weapon (1.9.6.7)												
	C	Selecting Firing Mode (1.9.6.7)												
	C	Firing Grenade Launcher (1.9.6.7)												

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MISSION COMPLETION

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
32.0	CGD	CHECKING ENGINE COMPARTMENT AND VEHICLE EXTERIOR												

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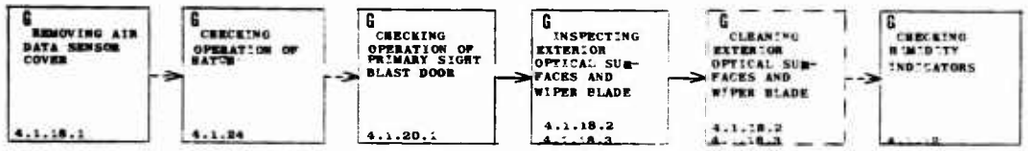
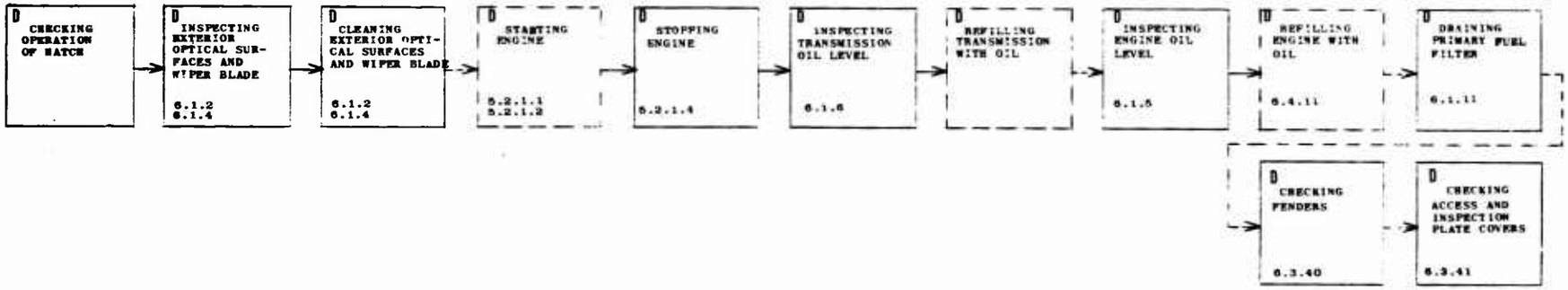
CHECKING ENGINE COMPARTMENT AND VEHICLE EXTERIOR





NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
32.0	CGD	TASKS ALWAYS PERFORMED												
	D	Checking Fenders (6.3.40)												
	D	Checking Access and Inspection Plate Covers (6.3.41)												
		OTHER TASKS INCLUDED ARE LISTED ON PAGES 5 - 8												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
33.0	D	CHECKING SUSPENSION SYSTEM												

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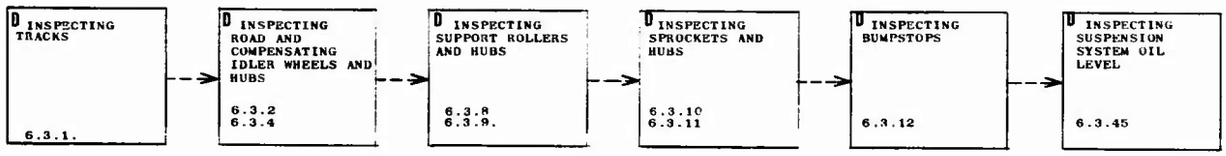
CHECKING SUSPENSION SYSTEM



NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
33.1	D	TASKS ALWAYS PERFORMED												
	D	Inspecting Tracks (6.3.1)												
	D	Inspecting Road and Compensating Idler Wheels and Hubs (6.3.2 - 6.3.4)												
	D	Inspecting Support Rollers and Hubs (6.3.8 - 6.3.9)												
	D	Inspecting Sprockets and Hubs (6.3.10 - 6.3.11)												
	D	Inspecting Bumpstops (6.3.12)												
	D	Inspecting Suspension System Oil Level (6.3.45)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
34.0	CGD	CHECKING OEM												

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NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
35.0	CGD	CHECKING COMMUNICATIONS EQUIPMENT												
		OTHER TASKS INCLUDED ARE LISTED ON PAGES 11 - 12												

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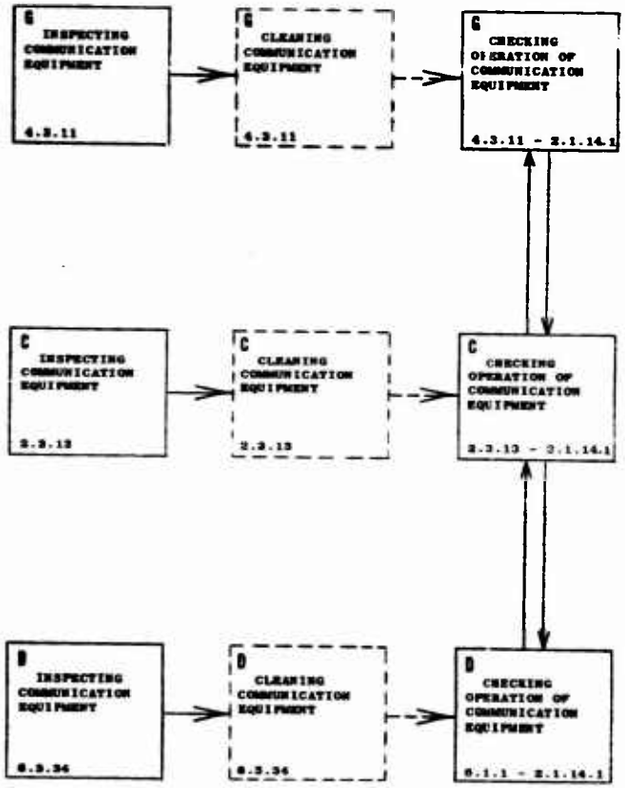
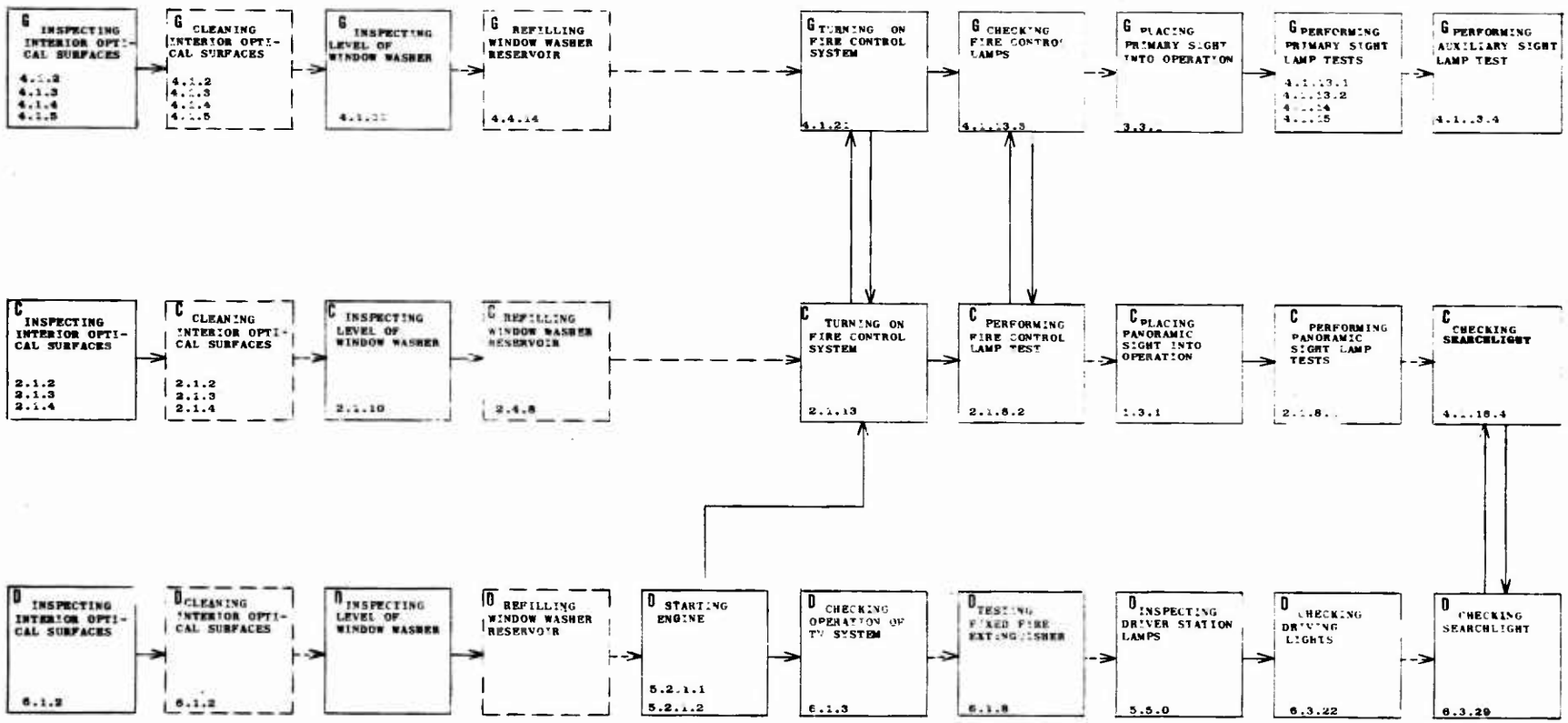
CHECKING COMMUNICATION EQUIPMENT



NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
36.0	CGD	CHECKING STATION LAMPS AND SIGHTING EQUIPMENT												

CHECKING STATION LAMPS AND SIGHTING EQUIPMENT



NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
36.1	CGD	TASKS ALWAYS PERFORMED												
	CD	Checking Operation of Searchlight (6.3.39 - 4.3.6.4)												
	D	Checking Driving Lights (6.3.23)												
		OTHER TASKS INCLUDED ARE LISTED ON PAGES 15 - 19												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RP	SEA	SOA	C
37.0	CGD	CHECKING OPERATION OF FIRE CONTROL SYSTEM												

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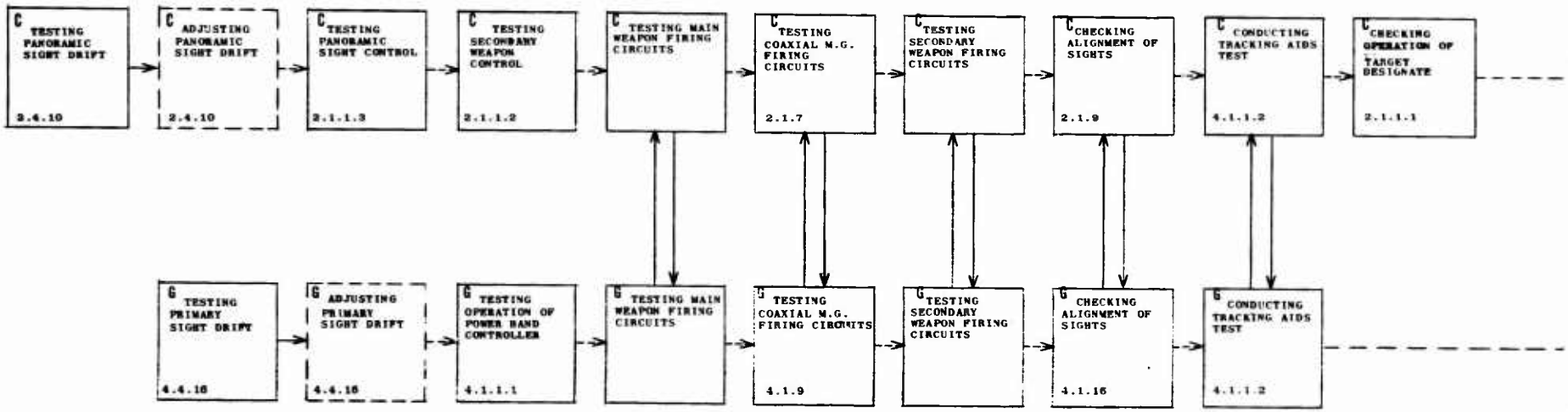
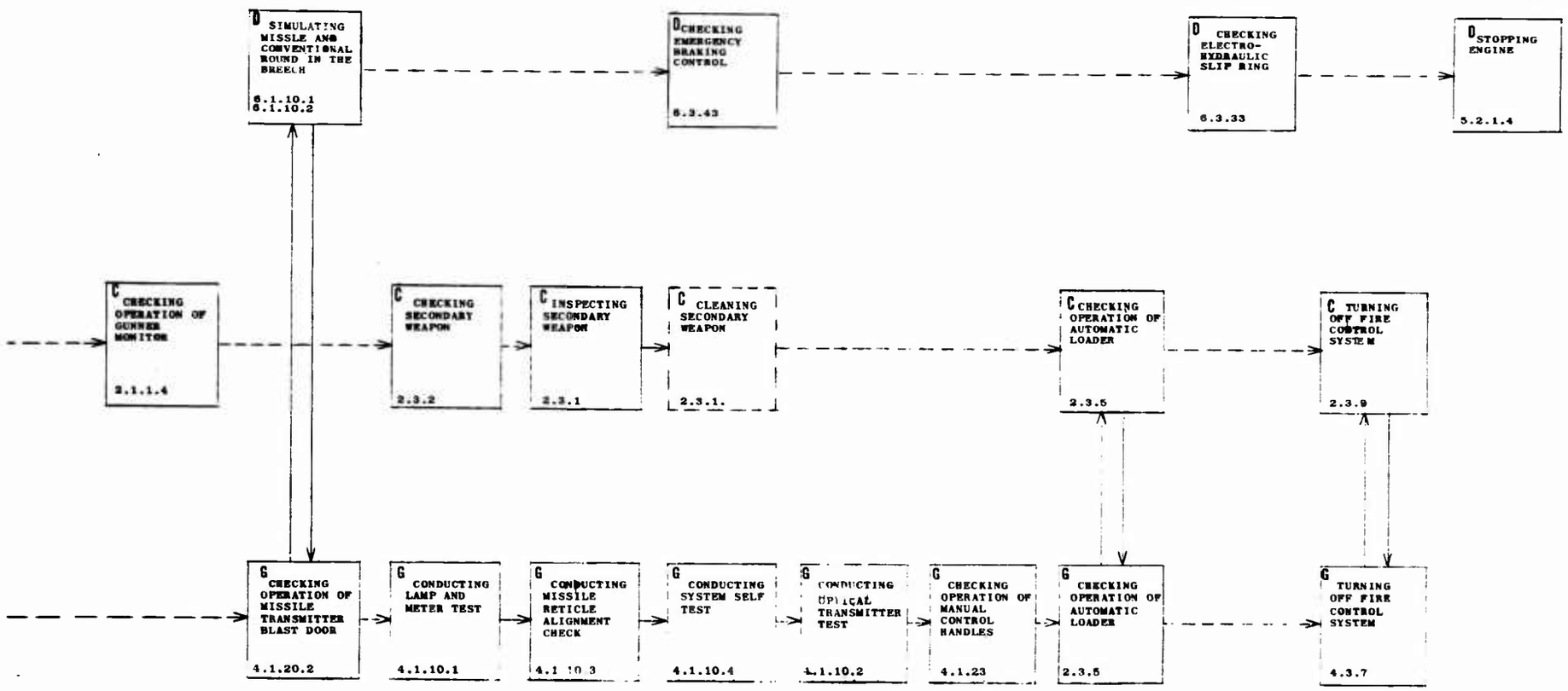
CHECKING OPERATION OF FIRE CONTROL SYSTEM




D SIMULATING MISSLE AND CONVENTIONAL ROUND IN THE BREECH
6.1.10.1
6.1.10.2
D CHECKING EMERGENCY BRAKING CONTROL
6.3.43
D CHECKING ELECTRO-HYDRAULIC SLIP RING
6.3.33
D STOPPING ENGINE
5.2.1.4
C CHECKING OPERATION OF GUNNER MONITOR
2.1.1.4
C CHECKING SECONDARY WEAPON
2.3.2
C INSPECTING SECONDARY WEAPON
2.3.1
C CLEANING SECONDARY WEAPON
2.3.1.
C CHECKING OPERATION OF AUTOMATIC LOADER
2.3.5
C TURNING OFF FIRE CONTROL SYSTEM
2.3.9
G CHECKING OPERATION OF MISSILE TRANSMITTER BLAST DOOR
4.1.20.2
G CONDUCTING LAMP AND METER TEST
4.1.10.1
G CONDUCTING MISSILE RETICLE ALIGNMENT CHECK
4.1.10.3
G CONDUCTING SYSTEM SELF TEST
4.1.10.4
G CONDUCTING OPTICAL TRANSMITTER TEST
4.1.10.2
G CHECKING OPERATION OF MANUAL CONTROL HANDLES
4.1.23
G CHECKING OPERATION OF AUTOMATIC LOADER
2.3.5
G TURNING OFF FIRE CONTROL SYSTEM
4.3.7

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
37.1	CGD	TASKS ALWAYS PERFORMED												
	C	Testing Panoramic Sight Drift (2.4.10)												
	C	Checking Secondary Weapon Feed Mechanism (2.3.2)												
	C	Inspecting Secondary Weapon (2.3.1)												
	CG	Checking Operation of Automatic Loader (2.3.5)												
	G	Testing Primary Sight Drift (4.4.16)												
	D	Checking Electrohydraulic Slip Ring (6.3.33)												
	D	Checking Emergency Braking Control (6.3.43)												
		OTHER TASKS INCLUDED ARE LISTED ON PAGES 25 - 27												

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NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
37.2	CG	TASKS FREQUENTLY PERFORMED												
	C	Adjusting Panoramic Sight Drift (2.4.10)												
	C	Cleaning Secondary Weapon (2.3.1)												
	G	Adjusting Primary Sight Drift (4.4.16)												
		OTHER TASKS INCLUDED ARE LISTED ON PAGES 27 - 28												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
38.0	G	MAINTAINING MAIN WEAPON												
	G	Replacing Breech and Loader Control Lamps (4.4.5.8)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
39.0	C	MAINTAINING SECONDARY WEAPON												
	C	Removing Secondary Weapon (2.4.1)												
	C	Disassembling Secondary Weapon (2.4.2)												
	C	Cleaning Secondary Weapon (2.4.12)												
	C	Assembling Secondary Weapon												
	C	Installing Secondary Weapon												

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NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
40.0	G	MAINTAINING COAXIAL MACHINE GUN												
	G	Removing Coaxial Machine Gun (4.4.8)												
	G	Disassembling Coaxial Machine Gun (4.4.9)												
	G	Cleaning Machine Gun												
	G	Cleaning Machine Gun Mount (4.4.20)												
	G	Assembling Machine Gun (4.4.10)												
	G	Mounting Coaxial Machine Gun (4.4.11)												
	G	Removing Flash Hider (4.4.24)												
	G	Cleaning Flash Hider (4.4.24)												
	G	Installing Flash Hider (4.4.24)												

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NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
41.0	D	MAINTAINING SUSPENSION SYSTEM												
	D	Breaking the Track (6.4.1)												
	D	Removing the Track (6.4.3)												
	D	Replacing Track End Connectors (6.4.46)												
	D	Replacing Track Center Guides (6.4.47)												
	D	Replacing Track Pad (6.4.8)												
	D	Installing the Track (6.4.4)												
	D	Connecting the Track (6.4.2)												
	D	Tensioning the Track (6.4.45)												

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NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
42.0	D	MAINTAINING THE ENGINE												
	D	Draining Oil from Engine (6.4.10)												
	D	Refilling Engine with Oil (6.4.11)												
	D	Vacuum Cleaning Engine Air Filters (6.4.13)												

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NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
43.0	GD	MAINTAINING EC/LSS UNIT												
	GD	Removing Gas Particulate Filter (4.4.23.1)												
	GD	Installing Gas Particulate Filter (4.4.23.2)												
	GD	Removing Activated Charcoal Filters (4.4.23.3)												
	GD	Installing Activated Charcoal Filters (4.4.23.4)												
	GD	Activating Dust Blowers (4.4.22)												

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NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
44.0	D	MAINTAINING DRIVER TV CAMERA												
	D	Removing Driver TV Camera (6.4.39)												
	D	Cleaning TV Camera Window (6.4.40)												
	D	Installing TV Camera (6.4.41)												

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NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
45.0	G	MAINTAINING SEARCHLIGHT												
	G	Removing Searchlight (4.4.19)												
	G	Installing Searchlight (4.4.19)												
	G	Replacing Remote Control Indicator Lamps (4.4.5.9)												

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NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
46.0	CGD	MAINTAINING SIGHTING EQUIPMENT												
	CGD	Removing Vision Block (2.4.13 - 4.4.3 - 6.4.14)												
	CGD	Installing Vision Block (2.4.13 - 4.4.4 - 6.4.15)												
	G	Aligning Missile Reticle (4.4.17.1)												
	G	Aligning Laser Transmitter (4.4.17.2)												
	G	Aligning Laser Receiver (4.4.17.3)												

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NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
47.0	C	MAINTAINING NAVIGATION SYSTEM												
	C	Calibrating Navigation Unit (1.1.10)												

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NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
48 0	CGD	BORESIGHTING WEAPONS												
	GD	Aligning Main Weapon, Auxiliary Sight and Primary Sight (4 4 12 1)												
	GD	Aligning Secondary Weapon and Primary Sight (4.4.12 3)												
	G	Aligning Coaxial Machine Gun and Auxiliary Sight (4 4.12 4)												
	GD	Aligning Searchlight and Auxiliary Sight (4.4.12 5)												
	CD	Aligning Secondary Weapon and Panoramic Sight (2 4.5.1)												
	CD	Aligning Secondary Weapon, TV Night Sight and Direct View Night Sight (2.4.5 2)												
	CG	Aligning Panoramic Sight and Primary Sight (2 4.11.1 - 4 4 18 1)												

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NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	CG	Aligning Panoramic Sight and Auxiliary Sight (2 4 11 2 - 4.4 18 2)												
	CG	Aligning Panoramic Sight, TV Night Sight and Direct View Night Sight (2.4.11.3 - 4.4.18.3)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
49.0	CG	ZEROING WEAPONS												
	G	Adjusting Ammunition Jump Characteristics (4.4.13.1)												
	G	Zeroing Coaxial Machine Gun (4.4.13.2)												
	C	Zeroing Secondary Weapon (2.4.7)												

NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
50.0	CG	TROUBLESHOOTING FIRE CONTROL SYSTEM												
	G	Troubleshooting when ready-to-fire indicator does not light - conventional round (4.6.1.1)												
	G	Troubleshooting when ready-to-fire indicator does not light - missile (4.6.1.2)												
	G	Troubleshooting when lazer ready indicator does not light (4.6.2.1)												
	G	Troubleshooting when stadia display does not appear but lazer range is present (4.6.2.2)												
	G	Troubleshooting when lazer range readout indicates zero after ranging (4.6.2.3)												

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NUMBER	CREW	PERFORMANCE UNIT	SYSTEM VARIABLES	SYSTEM STANDARD			TOOLS	INFORMATION	PERFORMANCE VARIABLES	PERFORMANCE STANDARD				
				T	A	R				T	RR	SEA	SOA	C
	G	Troubleshooting when lazer range readout appears incorrect but stadia display appears correct (4.6 2 4)												
	G	Troubleshooting when lazer range readout does not change and stadia display is not present (4.6.2.5)												
	G	Troubleshooting when desired target range cannot be selected and multiple return indicator remains lighted (4.6 2 6)												
	G	Troubleshooting when lazer range data for same target is not repeatable (4.6.2.7)												

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3. General Motors Corporation. MBT-70 Task Descriptions: Driver's Tasks, DC-0213-U-67, Vol. III. Warren (Michigan): Military Vehicles Organization, Allison Division and Milwaukee: AC Electronics Division, November 1967.

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6. Filaseta, B. M., Allen, H. L. and Cundiff, R. W. Service Test of United States/Federal Republic of Germany Main Battle Tank-70 (U), RDT&E Project No. 1X57919D372, USATECOM Project No. 0-6-2032-31. Fort Knox, Kentucky: US Army Armor & Engineer Board, 24 March 1967. (SECRET)